PANASONIC KXT308B/H*

MODEL

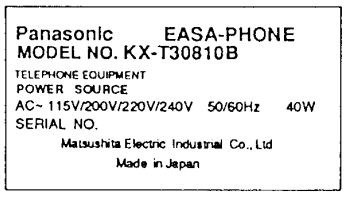
SERVICE MANUAL

ORDER NO. KM49208241A3

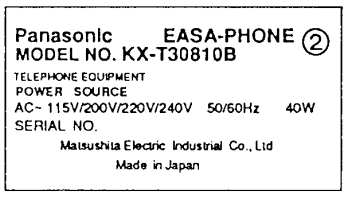
Service Manual

EASA-PHONE
ELECTRONIC MODULAR
SWITCHING SYSTEM

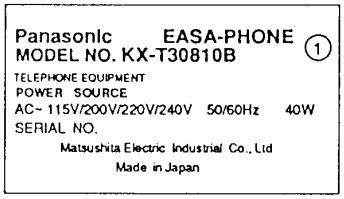
KX-T30810B-3



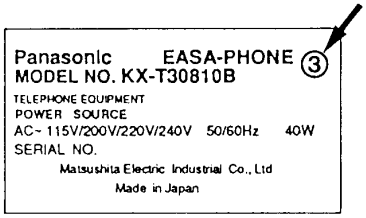
(Model KX-T30810B)



(Model KX-T30810B-2)



(Model KX-T30810B-1)



(Model KX-T30810B-3)

1. There are 4 types of model KX-T30810B, such as KX-T30810B, KX-T30810B-1 KX-T30810B-2, and KX-T61610B-3.
2. The model KX-T30810B-3, has a mark ③ on the name plate in figure left.
3. Please use this manual for model KX-T30810B-3.

Note: Technical Guide...Refer to the KX-T30810B-1 Technical Guide (order No. KM48903368G3).

COMPARISON TABLES/СРАВНИТЕЛЬНЫЕ ТАБЛИЦЫ
PROGRAMMING TABLE/ТАБЛИЦА ПРОГРАММИРОВАНИЯ
WIRING CONNECTION DIAGRAM/СХЕМА СОЕДИНЕНИЙ
SCHEMATIC DIAGRAM/ПРИНЦИПИАЛЬНАЯ СХЕМА
REPLACEMENT PARTS LIST/ СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

■ SPECIFICATIONS COMPARISON TABLE

SPECIFICATIONS	KX-T30810-1	**KX-T30810B-3**
General Description 4. Power Supplies	Primary AC 120 V, 60 Hz	Primary AC 115/200/220/240 V, 50/60 Hz
Characteristics 5. Primary Power	120 V ac, 60 Hz, 0.4 A maximum	115/200/220/240 V ac, 50/60 Hz 0.4 A maximum

■ CONNECTION COMPARISON TABLE

CONNECTION	KX-T30810-1	**KX-T30810B-3**
Optional Battery Adaptor	KX-A16	KX-A16B
Power Supply	120 V, 60 Hz	115/200/220/240 V, 50/60 Hz
Model No.	KX-T30810	KX-T30810B

■ BLOCK DIAGRAM COMPARISON TABLE

BLOCK DIAGRAM	KX-T30810-1	**KX-T30810B-3**
Power Supply	AC 120 V, 60 Hz	AC 115/200/220/240 V, 50/60 Hz

■ PROGRAMMING

Notes: 1. For details of installation, refer to the Installation Manual (Part No. PQQX5289Z).
2. For details of operation, refer to the User Guide (Part No. PQQX5291Z).

(Model KX-T30810-1)

⬇

Notes: 1. For details of installation, refer to the Installation Manual (Part No. PQQX5391Z) and Leaflet (Part No. PQQX10231Z).
2. For details of operation, refer to the User Guide [Part No. PQQX5392Z (English), PQQX5393Z (Spanish)].

(Model KX-T30810B-3)

■ PROGRAMMING TABLE

Toll Restriction—Class Assignment	[10]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └---- *CLASS 1/2/3/4* └------ *until the desired extension number appears*

	Default	*To make program change*							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Class 1 (all calls)	×								
Class 2 (toll calls, local calls)									
Class 3 (selected area-codes, local calls)									
Class 4 (local calls)									

(Model KX-T30810-1)

Toll Restriction—Class Assignment	[10]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └---- *CLASS 1/2/3* └------ *until the desired extension number appears*

	Default	*To make program change*							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Class 1	×								
Class 2									
Class 3									

(Model KX-T30810B-3)

Programmable Operator Call	[12]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └---- *ENABLE/DISABLE* └---- *until the desired extension number appears*

	Default	*To make program change*							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Enable	×								
Disable									

(Model KX-T30810-1)

Call Back Time	[12]	[NEXT] [SELECT] [MEMORY] [END] └----*30 SEC/15 SEC*

	Default	*To make program change*
30 sec	×	
15 sec		

(Model KX-T30810B-3)

Programmable Toll Prefix	[29]	[NEXT] [SELECT] [MEMORY] [END] └----- *WITH 1/ WITHOUT 1* *Default*: With 1 = ×; Without 1 = (blank) *To make program change*: (blank)
Programmable secret Auto Dial	[30]	[NEXT] [SELECT] [MEMORY] [END] └--- *NO SECRET/ SECRET* *Default*: No secret = ×; Secret = (blank) *To make program change*: (blank)

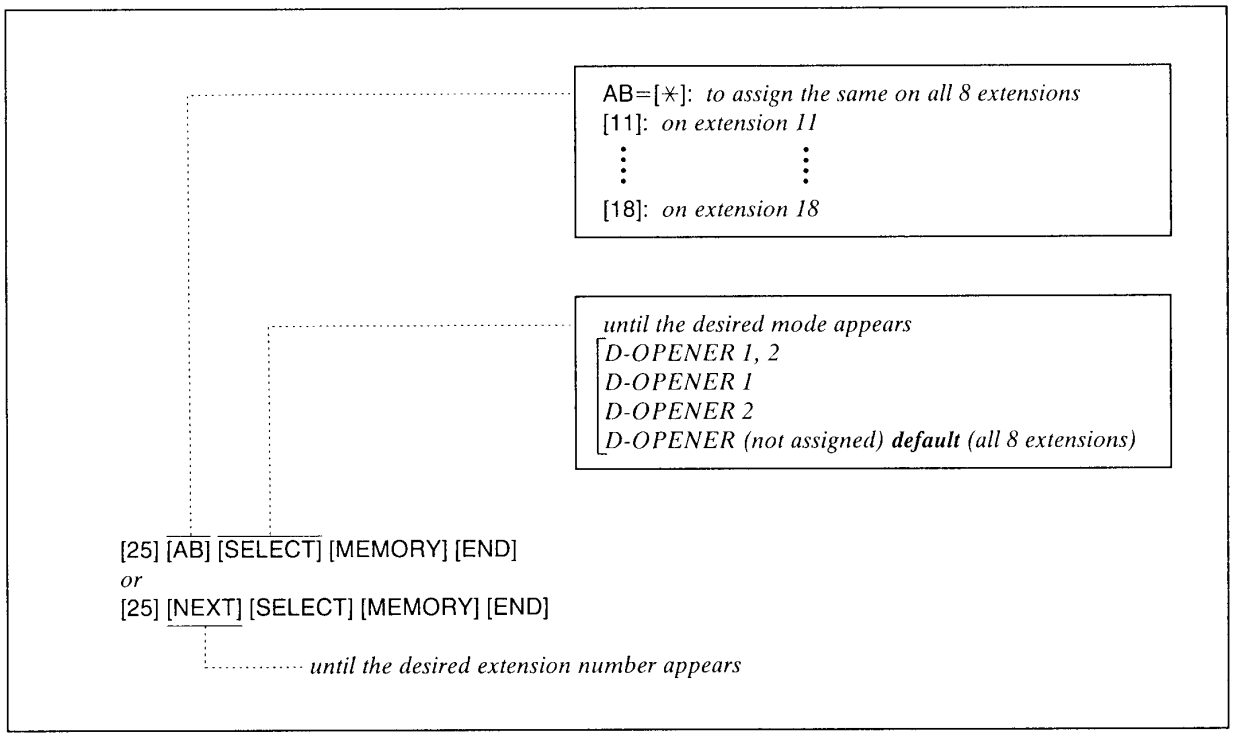
(Model KX-T30810-1)

Programmable secret Auto Dial	[29]	[NEXT] [SELECT] [MEMORY] [END] └--- *NO SECRET/ SECRET* *Default*: No secret = ×; Secret = (blank) *To make program change*: (blank)

(Model KX-T30810B-3)

Addition

Programming for Door Opener


AB=[*]: to assign the same on all 8 extensions
[11]: on extension 11
[18]: on extension 18
until the desired mode appears
D-OPENER 1, 2
D-OPENER 1
D-OPENER 2
D-OPENER (not assigned) default (all 8 extensions)
[25] [AB] [SELECT] [MEMORY] [END]
or
[25] [NEXT] [SELECT] [MEMORY] [END]
until the desired extension number appears

Description

Allows each extension to be programmed for unlocking the door. Up to 2 Door Openers can be connected to your unit.

Programming

1. *Dial (25).*
   "ENTER EXT NO" will be displayed.
2. *Press the NEXT button.*
   "11: D-OPENER..." will be displayed.
3. *Keep pressing the SELECT button until the desired mode of door openers is displayed.*
4. *Press the MEMORY button.*
   The LCD will stop blinking.
5. *Repeat step 2 to 4 to program the mode of the other extensions.*
6. *To return to the initial programming mode, press the END button.*

Conditions

- *When you start the programming from step 1, you may dial the desired extension number instead of NEXT button at step 2.*
- *The PREV button allows you to go to the previous extension for displaying the door opener assignment.*

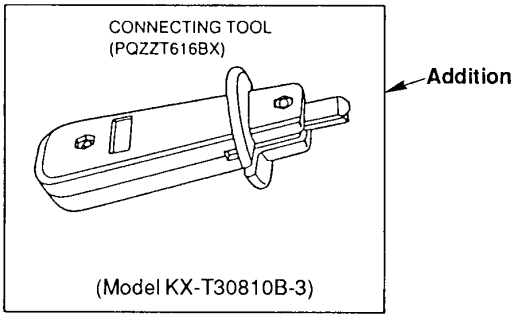
Example:

To allow extension 12 to open the only D-OPENER 1.
[25] [12] [SELECT] [SELECT] [MEMORY] [END]

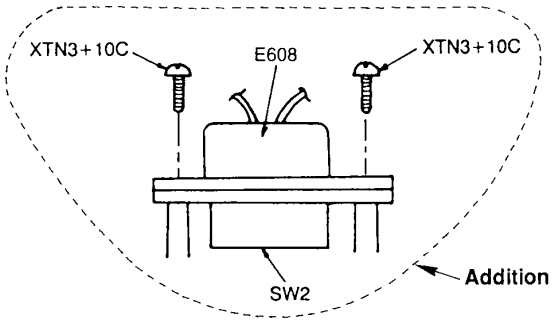
Programming Table

	Default	*To make program change*							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
not assigned	×								
Door opener 1									
Door opener 2									

■ TOOL FOR SERVICE

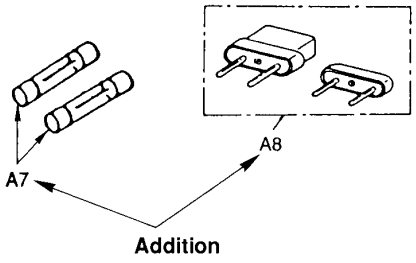


■ EXPLODED VIEW



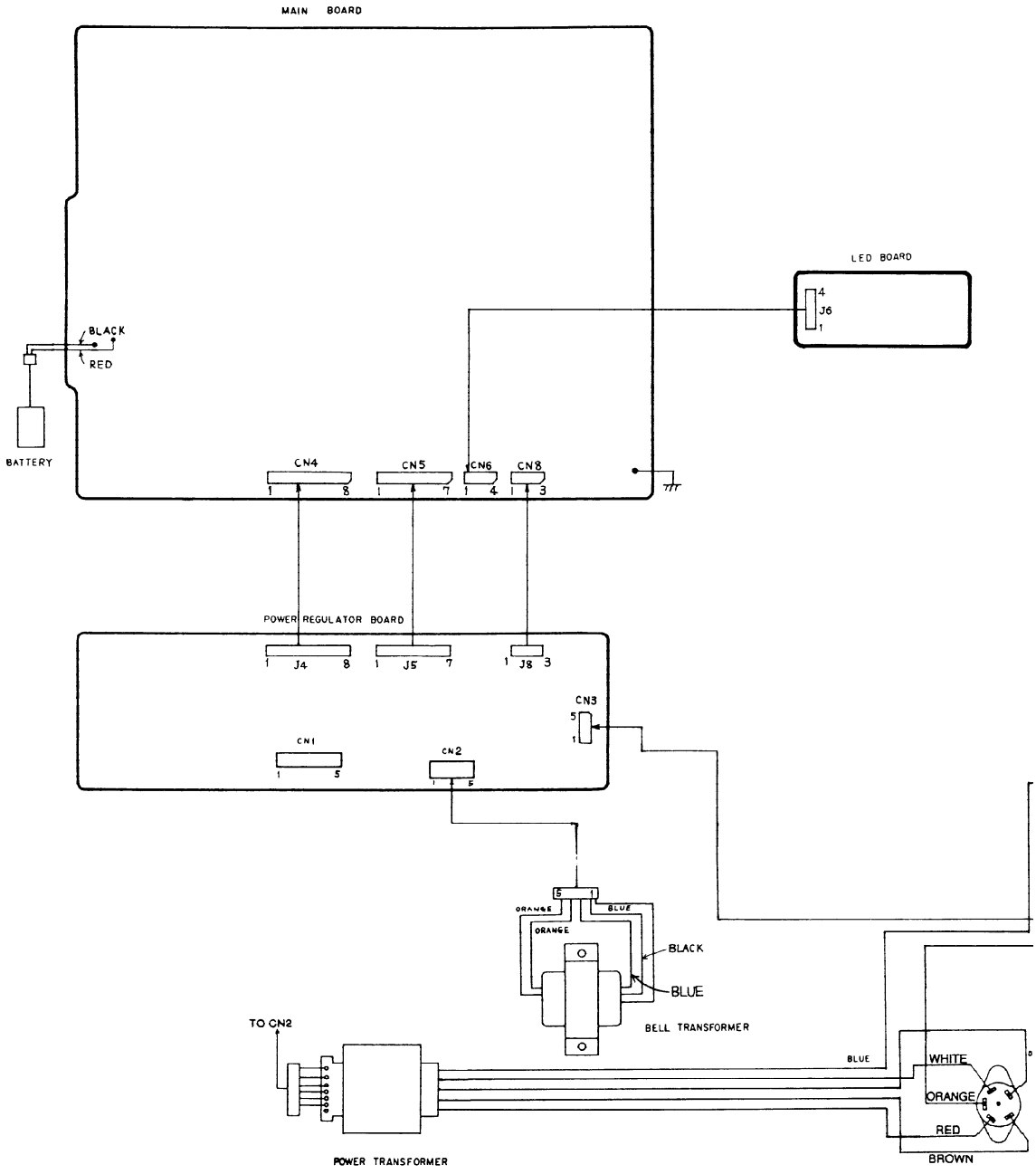
(Model KX-T30810B-3)

■ ACCESSORIES & PACKING MATERIALS

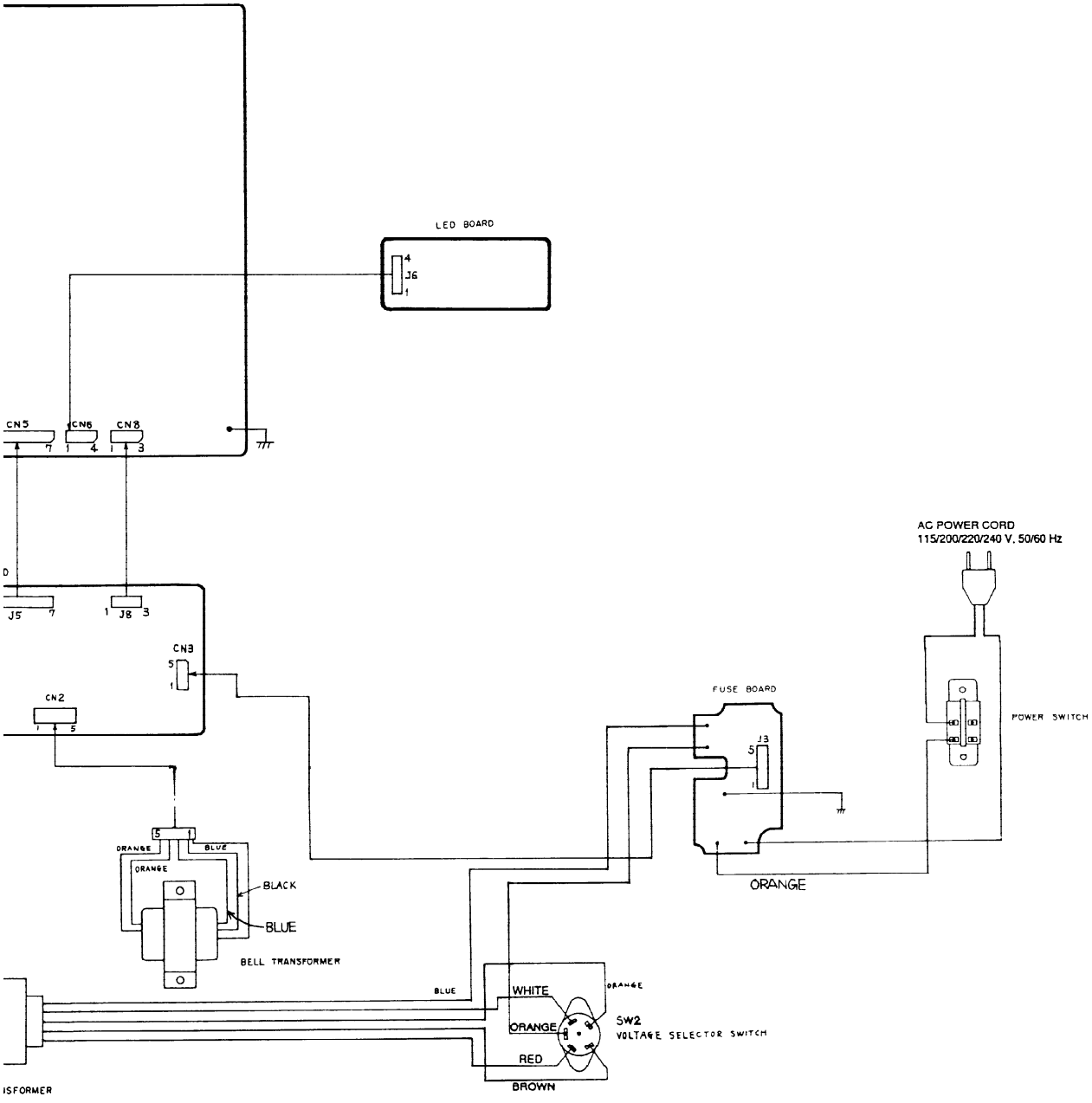


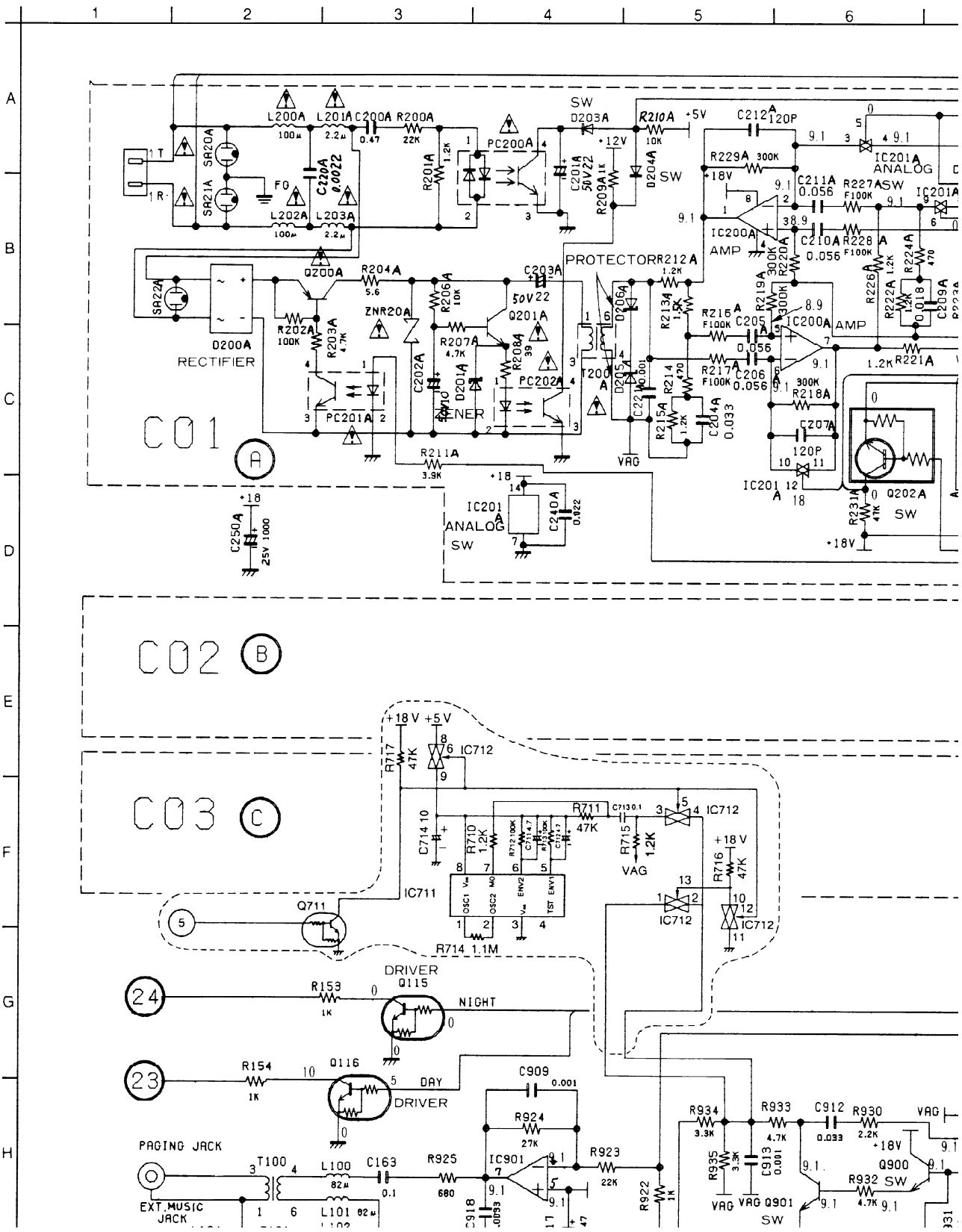
(Model KX-T30810B-3)

WIRING CONNECTION DIAGRAM

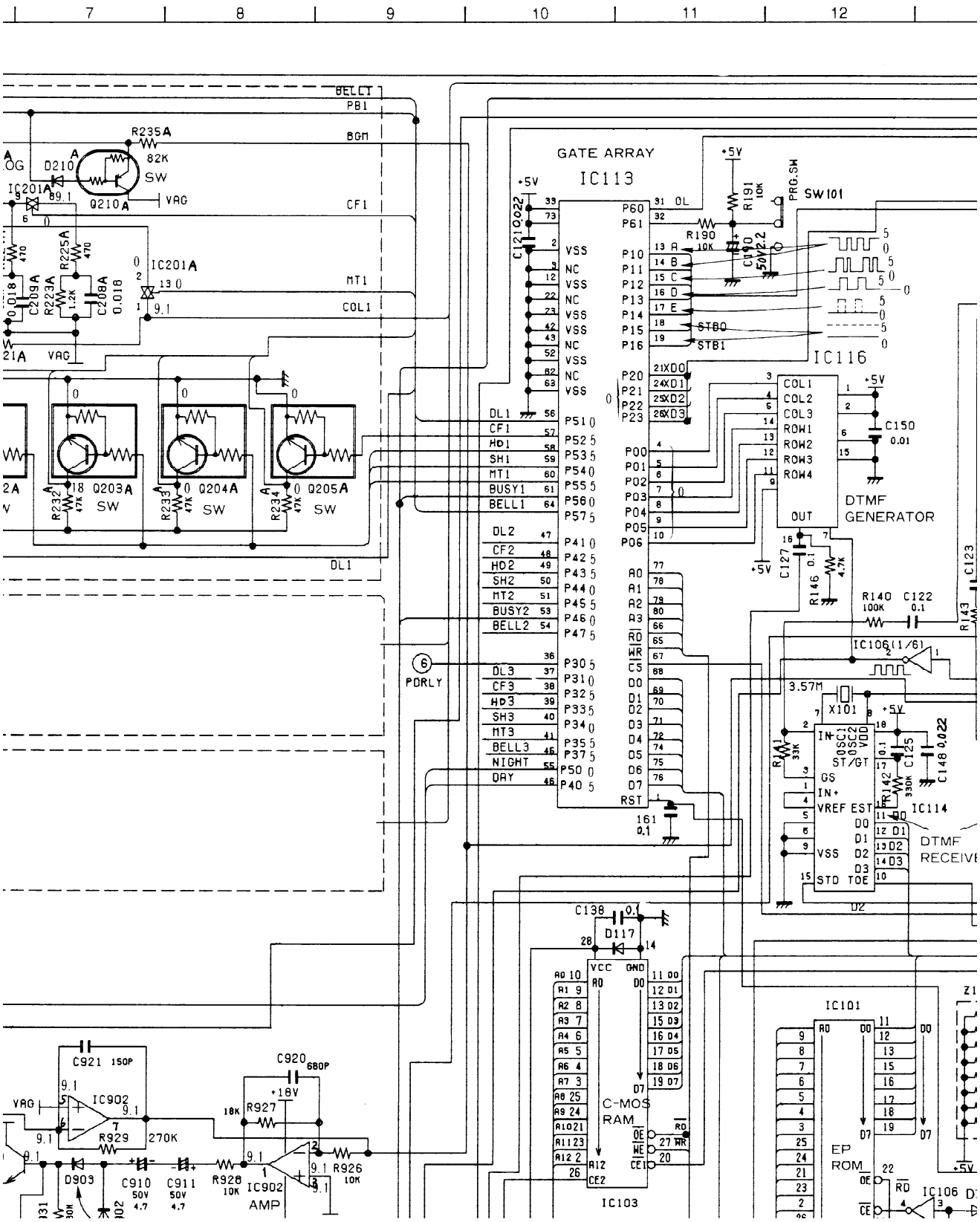


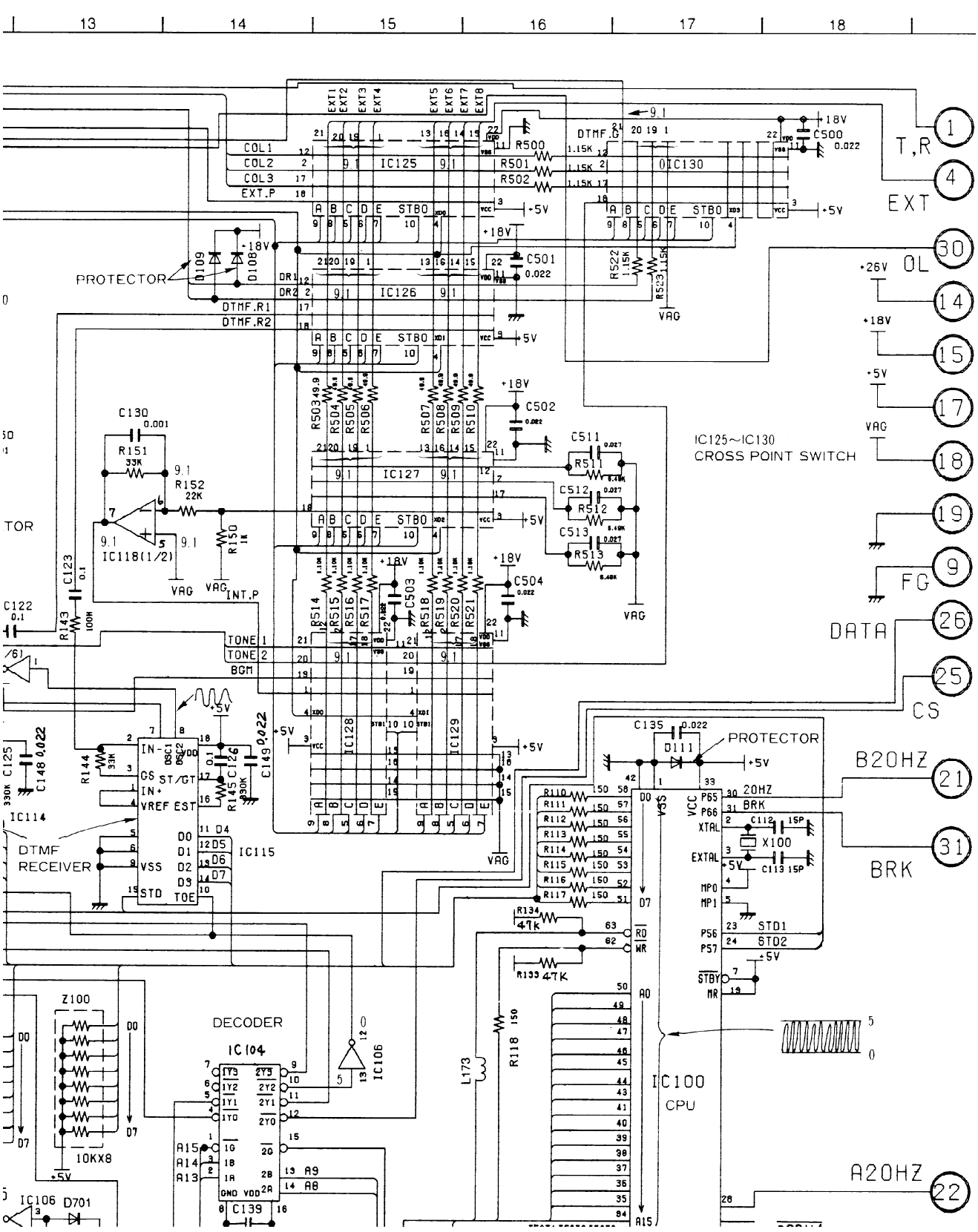
WIRING CONNECTION DIAGRAM

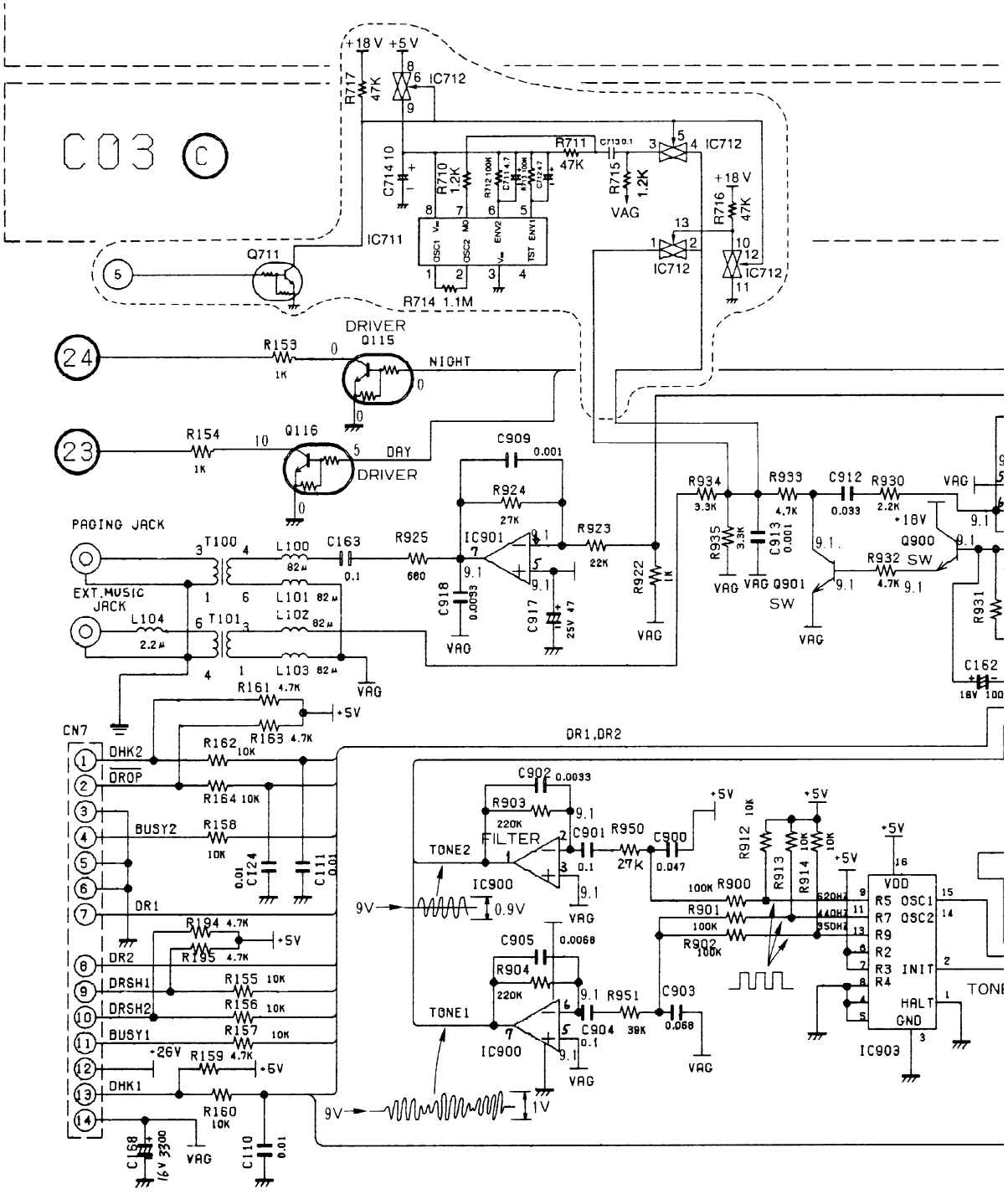



C01
C02
C03
RECTIFIER
PROTECTOR
AMP
ANALOG SW
DRIVER
NIGHT
DAY
PAGING JACK
EXT.MUSIC JACK

SCHEMATIC DIAGRAM




13
14
15
16
17
18
T,R
EXT
OL
+26V
+18V
+5V
VAG
FG
DATA
CS
B20HZ
BRK
A20HZ
IC125~IC130
CROSS POINT SWITCH
PROTECTOR
DTMF.R1
DTMF.R2
COL1
COL2
COL3
EXT.P
TONE 1
TONE 2
BGM
INT.P
IC125
IC126
IC127
IC128
IC129
IC130
IC118(1/2)
IC114
DTMF
RECEIVER
IC115
IC104
DECODER
IC106
IC100
CPU
Z100
10KX8
D701
L173
X100
STD1
STD2
STBY
MR



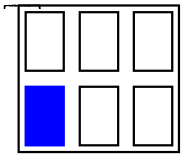
Notes:

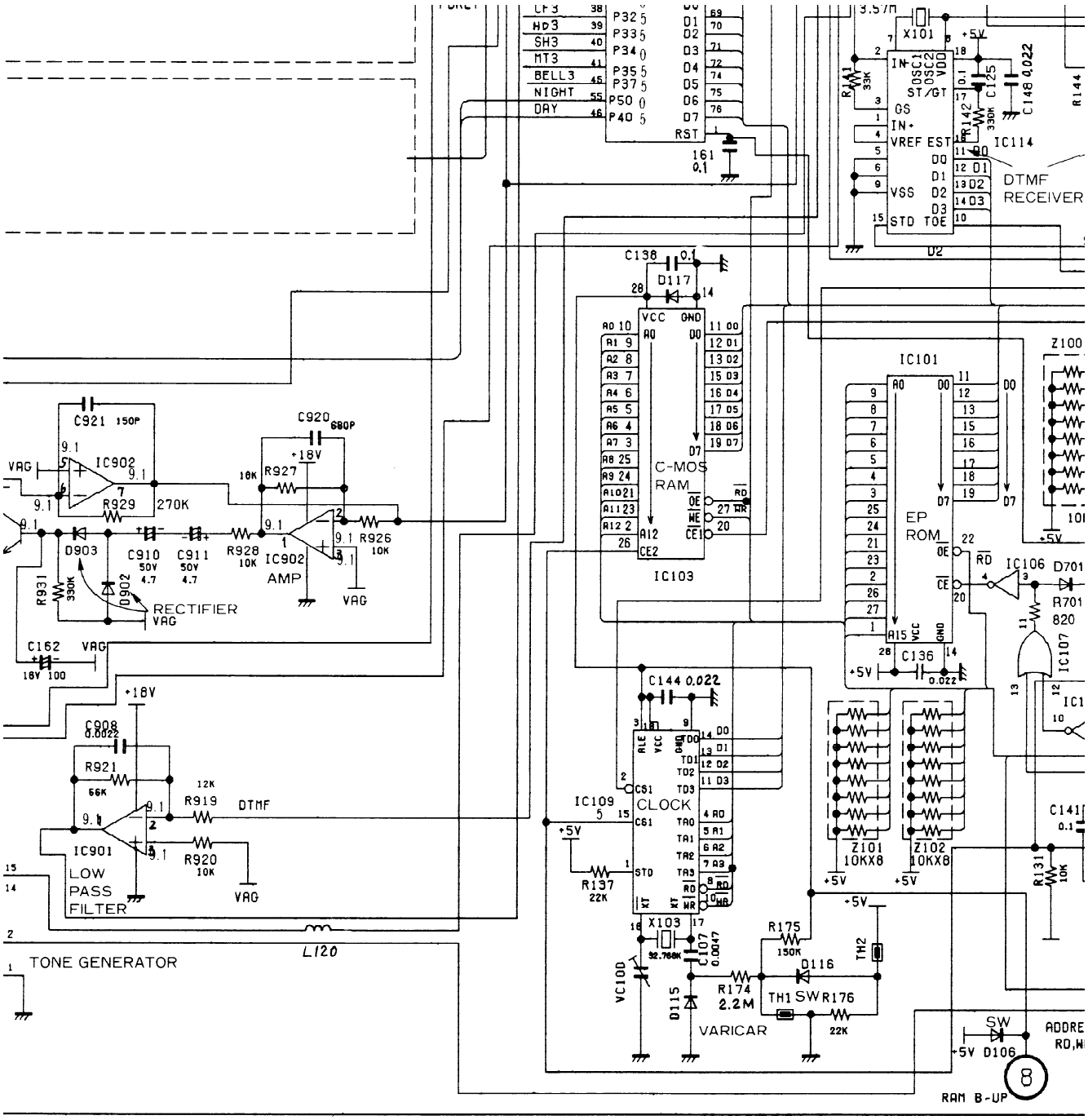
1. SW1: Power switch.
2. SW100: Reset switch.
3. SW101: System program switch in "PROGRAM" position.
4. DC voltage measurements are taken with electronic voltmeter and oscilloscope from ground line.

   (•Power Switch ON condition
   •Voltage Value: V)

5. This schematic diagram may be modified at any time with the development of new technology.

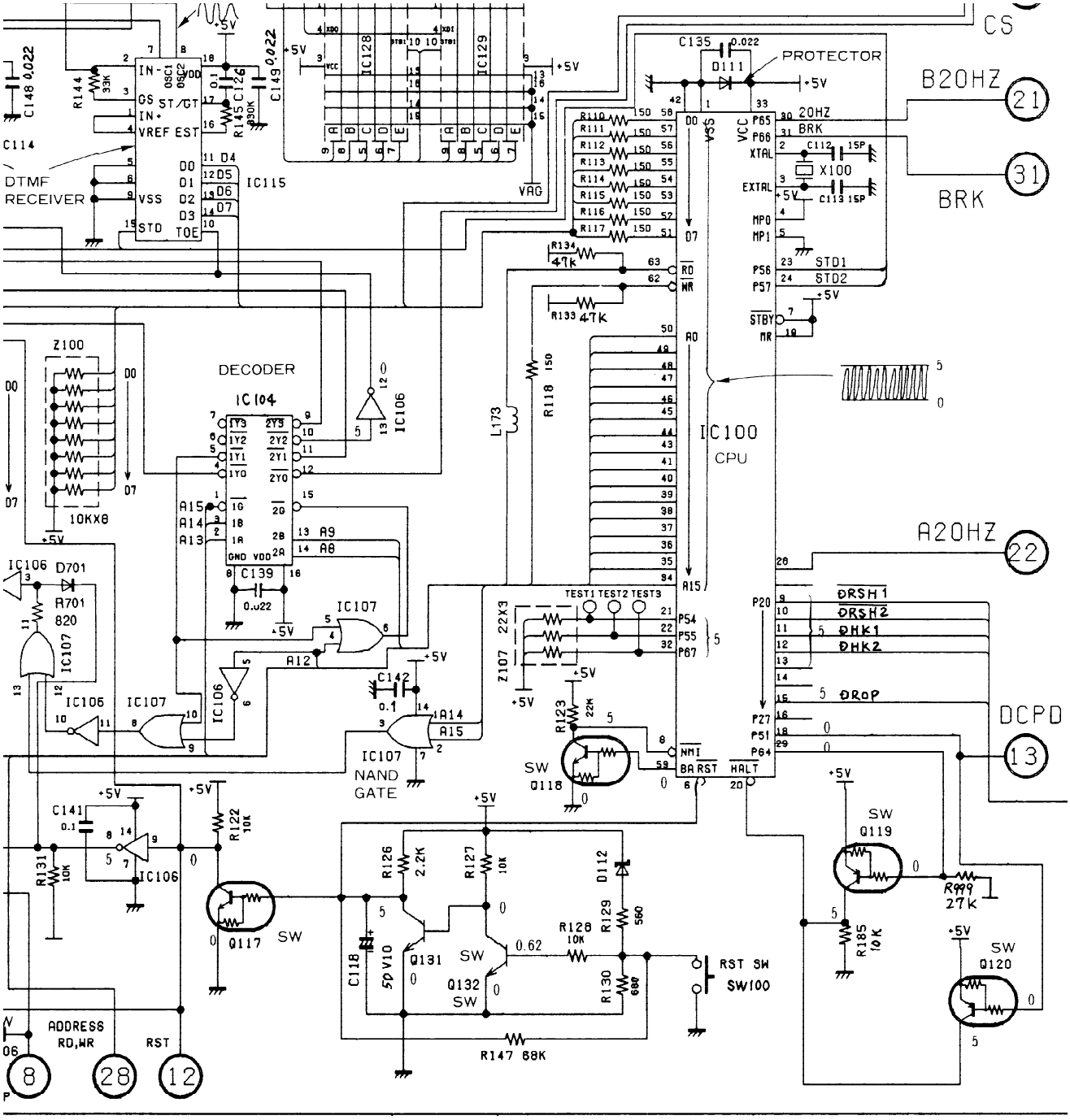
6. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

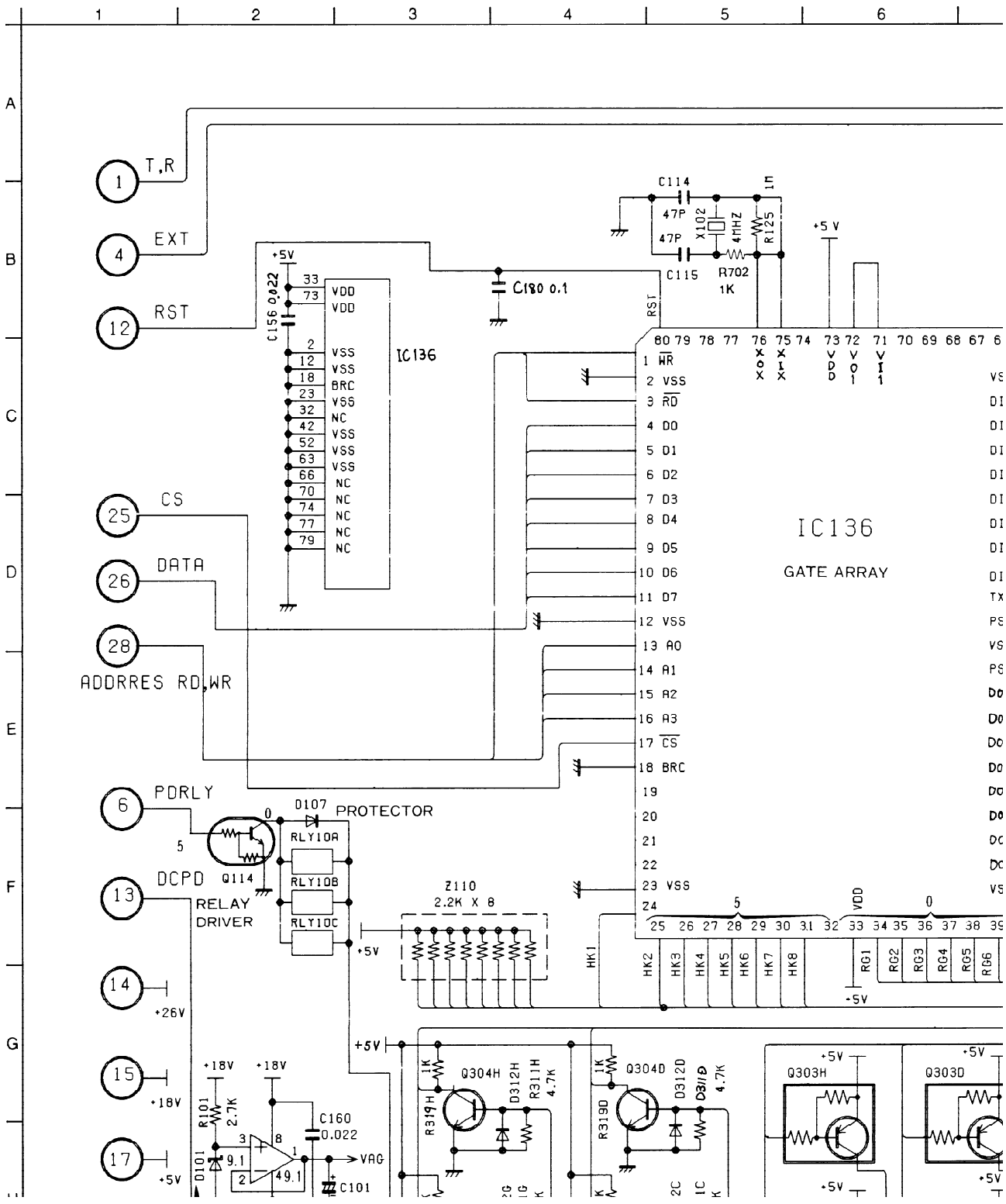




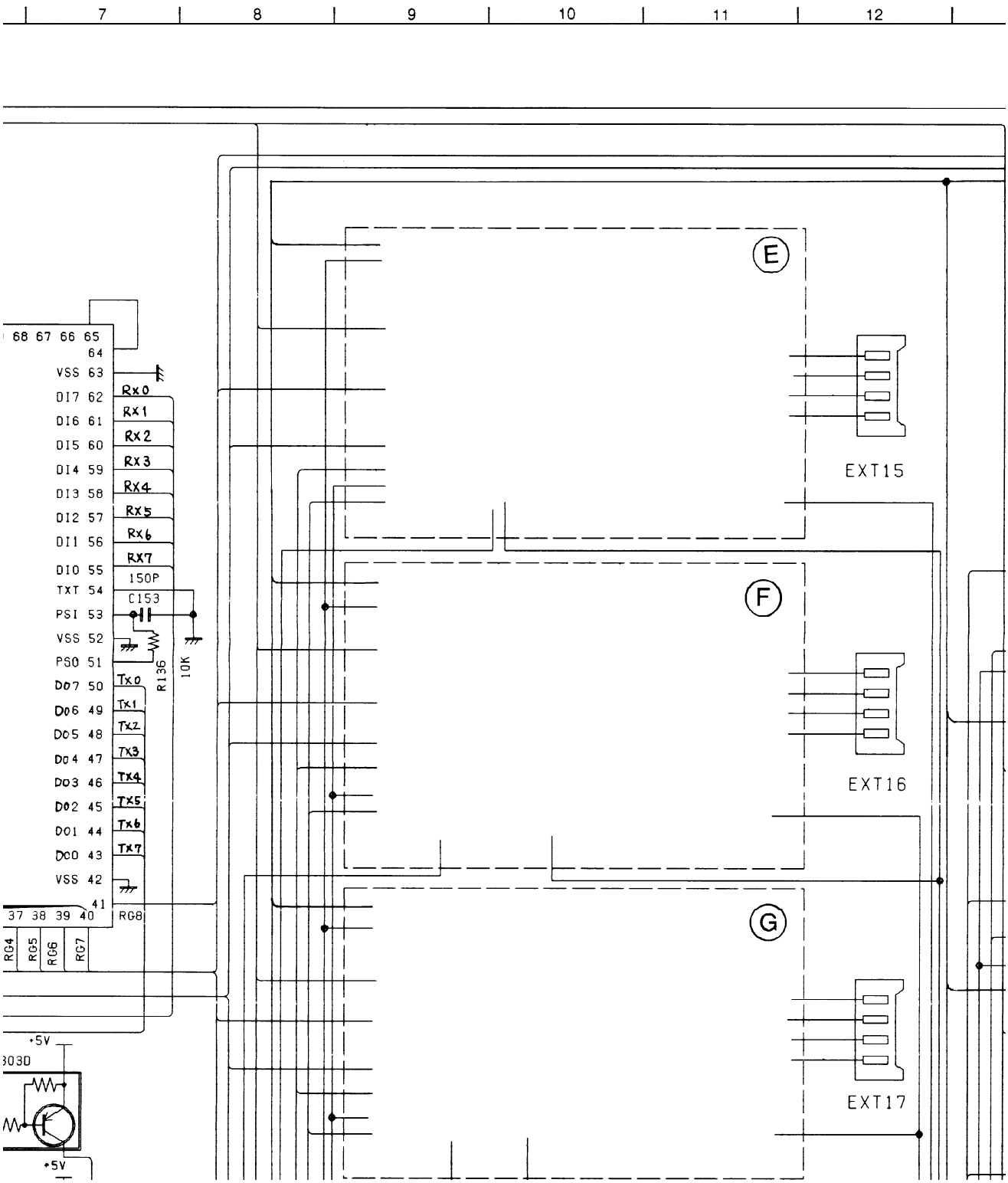
7.

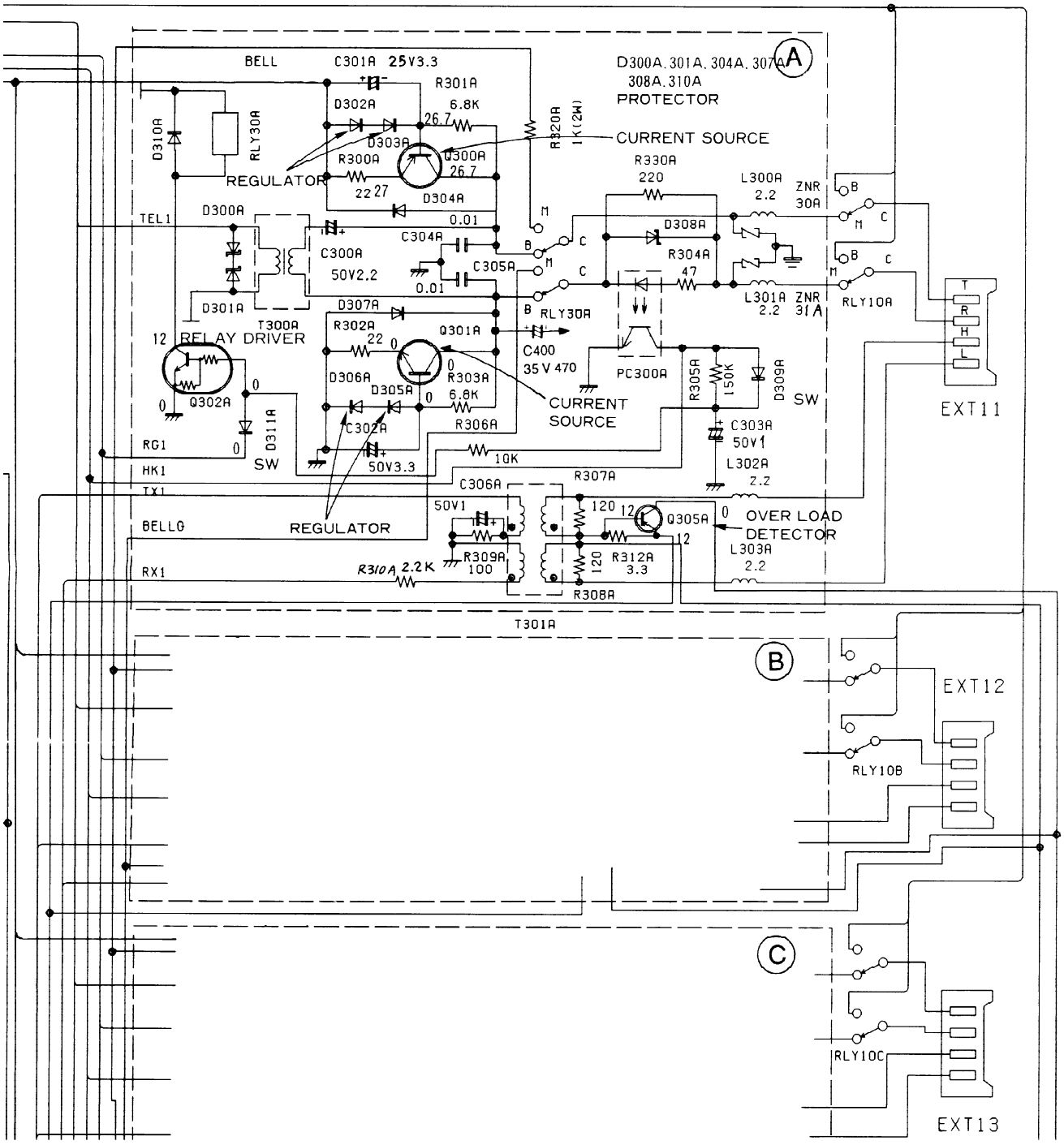
Varcap.	General	Zener	LED	Photo Diode
Anode / Cathode	Anode / Cathode	Anode / Cathode	Anode / Cathode	Cathode / Anode

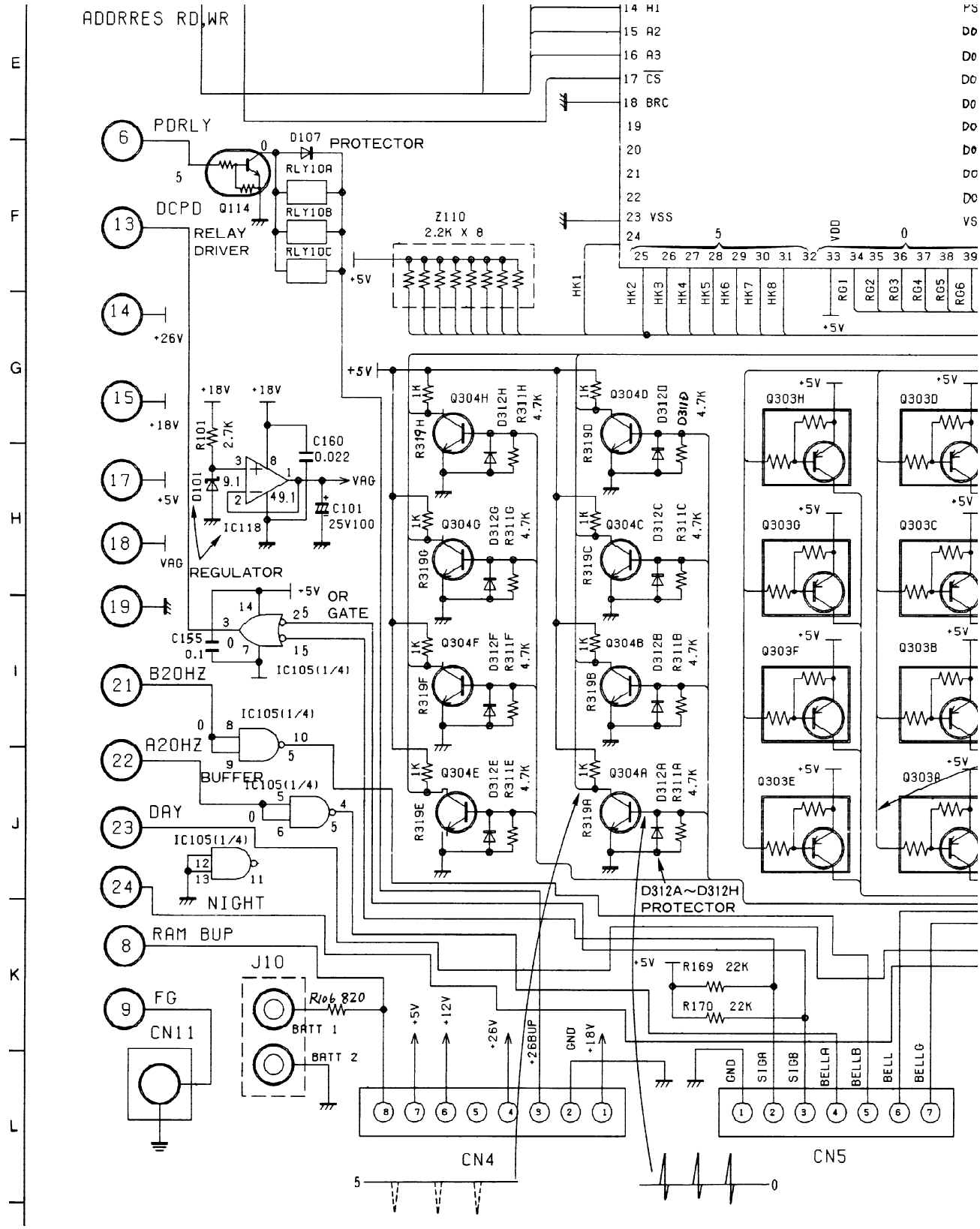

DTMF RECEIVER
IC115
IC128
IC129
VAG
PROTECTOR
D111
B20HZ
BRK
CS
X100
IC100
CPU
DECODER
IC104
Z100
10KX8
IC106
IC107
NAND GATE
L173
A20HZ
DCPD
DRSH1
DRSH2
DHK1
DHK2
DROP
SW Q118
SW Q119
SW Q120
SW Q117
Q131
Q132
RST SW SW100
ADDRESS RD,WR
RST
R147 68K

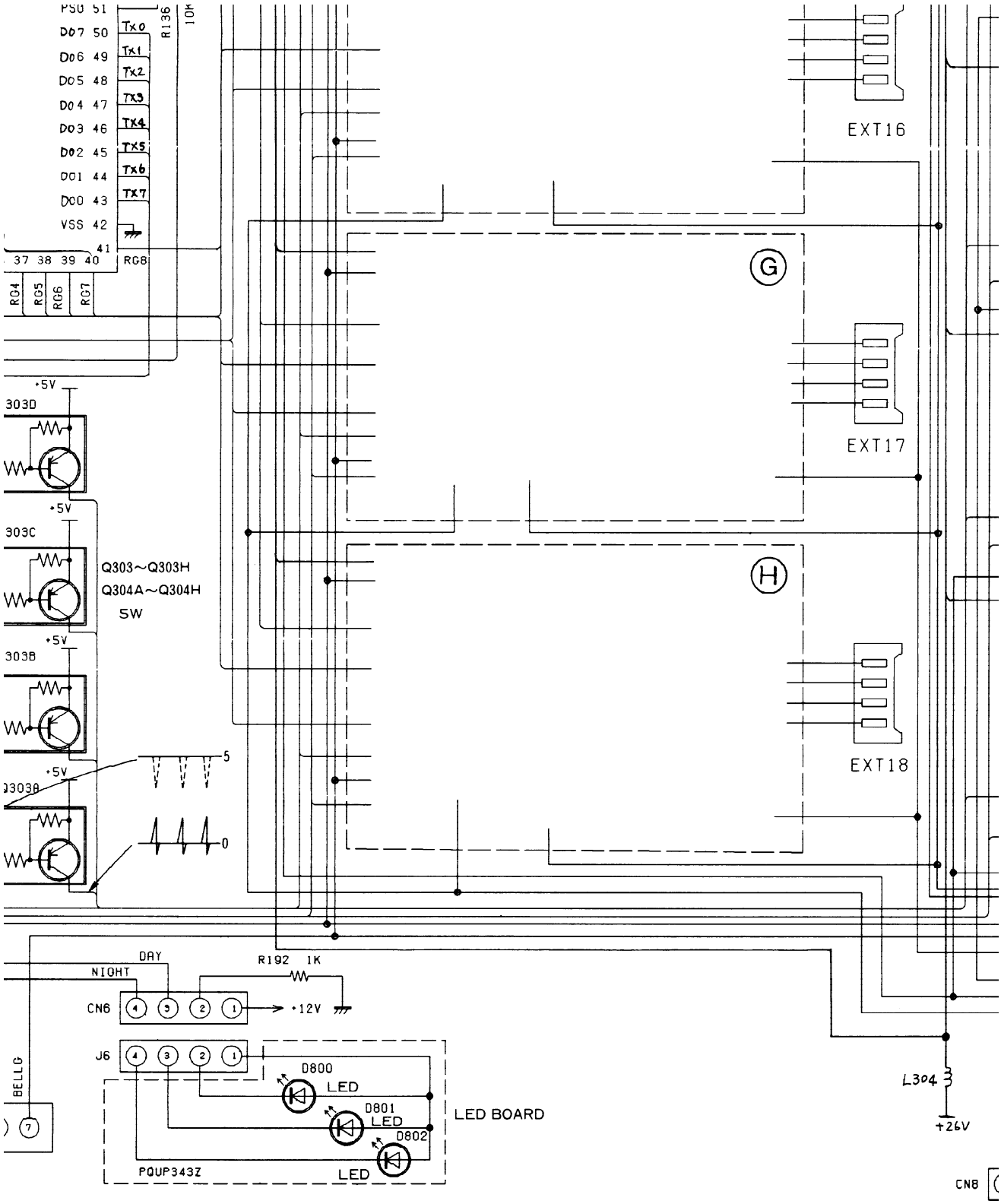

T,R
EXT
RST
CS
DATA
ADDRRES RD,WR
PDRLY
DCPD
RELAY DRIVER
+26V
+18V
+5V
IC136
GATE ARRAY
C114
47P
X102
4MHZ
R125
1M
R702
1K
C115
C180 0.1
C156 0.022
D107 PROTECTOR
RLY10A
RLY10B
RLY10C
Q114
Z110
2.2K X 8
R101
2.7K
C160
0.022
C101
VAG
Q304H
Q304D
Q303H
Q303D
D312H
D312D
R311H
R319H
R319D
4.7K
1K

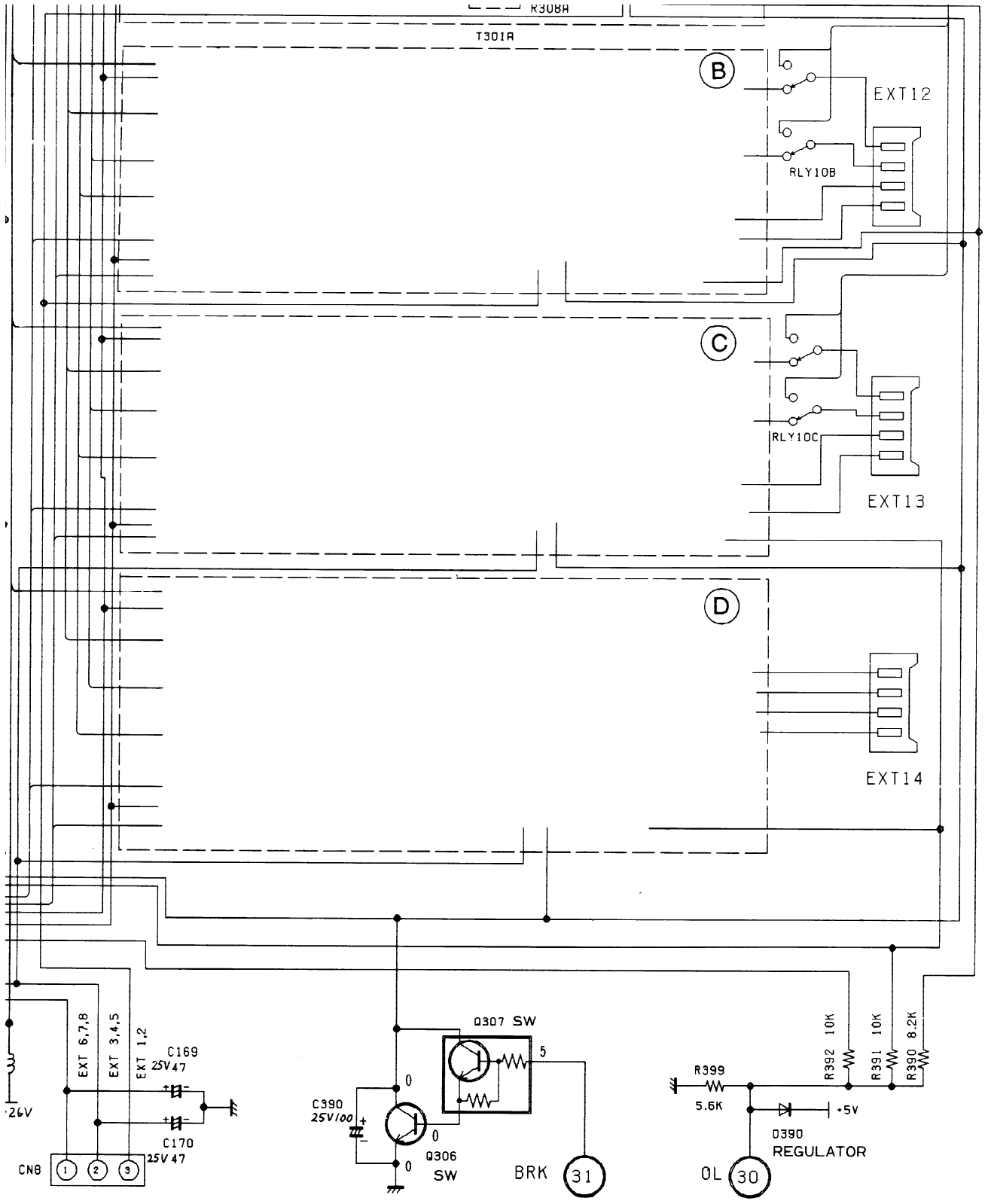
SCHEMATIC DIAGRAM

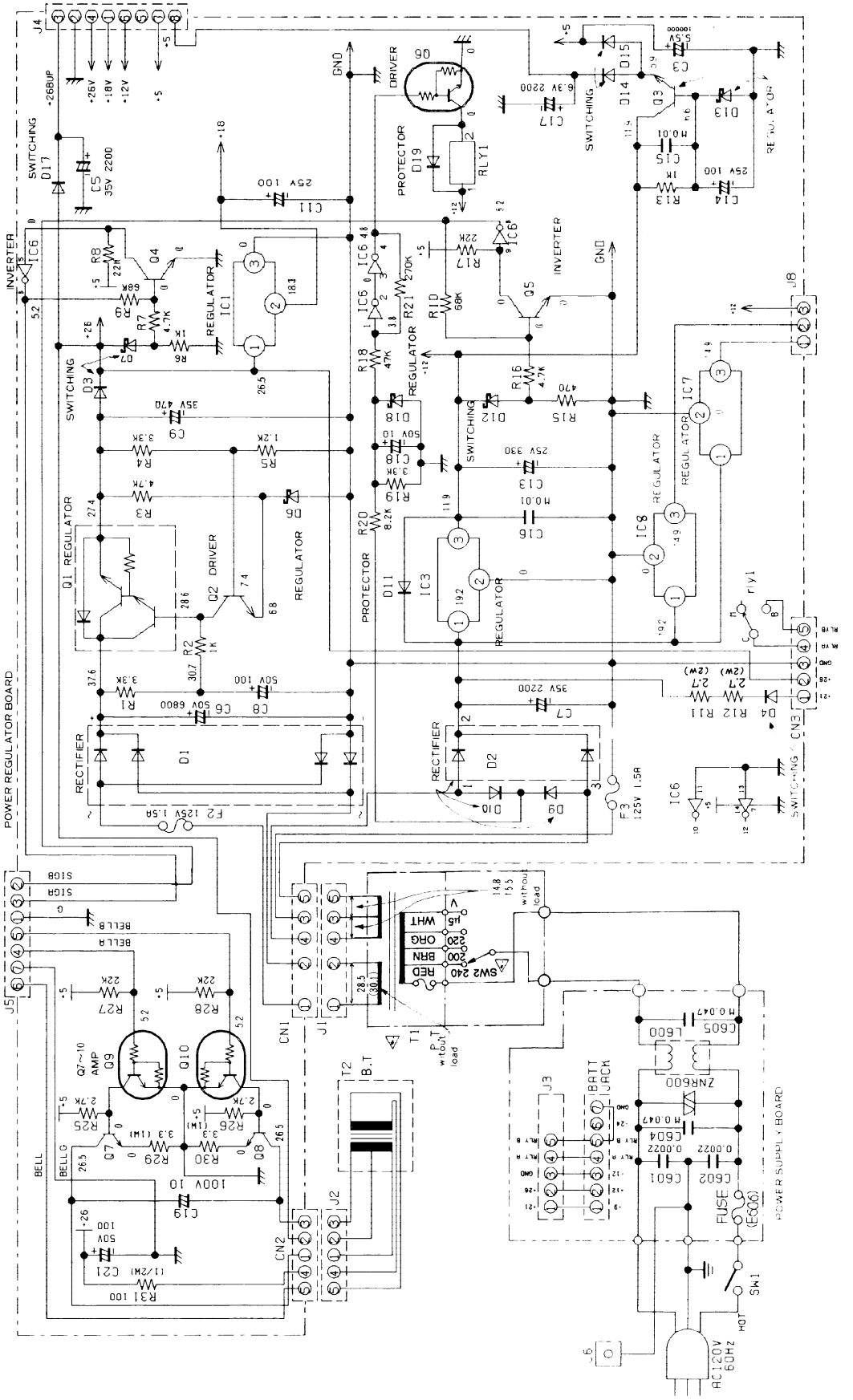



BELL
C301A 25V3.3
R301A
6.8K
D302A
26.7
D303A
R300A
Q300A
26.7
22 27
D304A
D310A
RLY30A
REGULATOR
D300A
TEL1
C300A
50V2.2
0.01
C304A
C305A
0.01
D301A
T300A
12 RELAY DRIVER
Q302A
D307A
R302A
22
Q301A
D306A
D305A
R303A
6.8K
C302A
50V3.3
R306A
10K
D311A
SW
RG1
HK1
TX1
BELLG
RX1
REGULATOR
R310A 2.2K
R309A
100
C306A
50V1
R307A
120
12
Q305A
R312A
3.3
R308A
T301A
R320A
1K(2W)
CURRENT SOURCE
D300A. 301A. 304A. 307A
308A. 310A
PROTECTOR
A
R330A
220
L300A
2.2
ZNR
30A
D308A
R304A
47
L301A
2.2
ZNR
31A
RLY10A
RLY30A
C400
35V 470
PC300A
CURRENT
SOURCE
R305A
150K
D309A
SW
C303A
50V1
L302A
2.2
OVER LOAD
DETECTOR
L303A
2.2
EXT11
B
EXT12
RLY10B
C
RLY10C
EXT13


ADDRRES RD,WR
PDRLY
D107 PROTECTOR
RLY10A
RLY10B
RLY10C
Q114
DCPD
RELAY DRIVER
Z110 2.2K X 8
+5V
+26V
+18V
VAG
REGULATOR
C160 0.022
C101 25V100
IC118
R101 2.7K
D101
OR GATE
C155 0.1
IC105(1/4)
B20HZ
A20HZ
BUFFER
DAY
NIGHT
RAM BUP
FG
CN11
J10
R106 820
BATT 1
BATT 2
Q304H
Q304G
Q304F
Q304E
Q304D
Q304C
Q304B
Q304A
Q303H
Q303G
Q303F
Q303E
Q303D
Q303C
Q303B
Q303A
D312A~D312H PROTECTOR
R169 22K
R170 22K
CN4
CN5
GND
+5V
+12V
+26V
+26BUP
+18V
S10A
S10B
BELLA
BELLB
BELL
BELLG


PSU 51
D07 50
D06 49
D05 48
D04 47
D03 46
D02 45
D01 44
D00 43
VSS 42
41
37 38 39 40
RG8
RG4
RG5
RG6
RG7
TX0
TX1
TX2
TX3
TX4
TX5
TX6
TX7
R136
10K
+5V
303D
303C
303B
303A
Q303~Q303H
Q304A~Q304H
SW
5
0
EXT16
EXT17
EXT18
G
H
DAY
NIGHT
CN6
+12V
R192 1K
J6
D800
LED
D801
LED
D802
LED
LED BOARD
PQUP343Z
BELLG
L304
+26V
CN8


R308A
T301A
B
EXT12
RLY10B
C
RLY10C
EXT13
D
EXT14
EXT 6,7,8
EXT 3,4,5
EXT 1,2
C169
25V47
C170
25V 47
26V
CN8
1
2
3
Q307 SW
5
0
C390
25V100
0
Q306
SW
0
BRK
31
R399
5.6K
R392 10K
R391 10K
R390 8.2K
+5V
D390
REGULATOR
OL
30


POWER REGULATOR BOARD
POWER SUPPLY BOARD
SWITCHING
REGULATOR
RECTIFIER
PROTECTOR
DRIVER
INVERTER
AC120V 60Hz
FUSE
SW1
SW2 240
220
200
WHT
ORG
BRN
RED
BELL
BELL G
BELL A
BELL B
S10A
S10B
BATT LACK
T1
T2
B.T
P.T
without load
CN1
CN2
CN3
J1
J2
J3
J4
J5
J8
IC1
IC3
IC6
IC7
IC8
Q1
Q2
Q3
Q4
Q5
Q6
Q7~10 AMP
Q9
Q10
D1
D2
D3
D4
D5
D6
D7
D9
D10
D11
D12
D13
D14
D15
D17
D18
D19
RLY1
F2 125V 1.5A
F3 125V 1.5A
ZNR600
+26BUP
+26V
+18V
+12V
+5
-5
-12
GND

REPLACEMENT PARTS LIST

Notes: Model KX-T30810B-3

1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
2. Important safety notice. Components identified by the ⚠ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P= 0.001μF
   *Type &Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC, : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
		CABINET & ELECTRICAL PARTS	
1	PQYM30810BX3	Rear Cabinet Assembly	1
1-1	PQGT10288Z	Name Plate	1
1-2	PQHR9120Y8	Hook	2
1-3	PQUS91Z	Spring, Hook	2
2	PQKE31Z8	Cabinet Door	1
3	PQYF1T30810B	Front Cabinet Assembly	1
4	PQBH2Z	Hinge-A	2
5	PQHR9121Z8	Hinge-B	2
6	PQYF230810B3	Inside Cover Assembly	1
6-1	PQUS102Z	Leaf Spring	2
6-2	PQHR118Z	Cord Holder-A	1
6-3	PQHR119Z	Cord Holder-B	1
6-4	PQHR120Z	Cord Holder-C	1
7	P-01H-F2G1	Battery	1
8	PQUV50Z	Battery Cover	1
		ACCESSORIES AND PACKING MATERIALS	
A1	PQQX5391Z	Installation Manual	1
A1	PQQX10231Z	Leaflet for Installation Manual	1
A2	PQQX5392Z	User Guide	1
A2	PQQX5393Z	User Guide (Spanish)	1
A3	PQHE10Z	Mounting Bracket (Curl Plug)	3
A4	PQHE5008Z	Mounting Bracket (Screw)	3
A5	PQJP1E1Z	Plug-A	1
A6	PQJP1E2Z	Plug-B	1
A7	RJP120ZS	Plug, Power Cord ⚠	1
A8	PQQX2193Y	Leaflet for Door Opener	1
P1	XZB45X60A05	Protection Cover	1
P2	PQPK1116W	Packing Case	1
P3	PQPN9036Y	Cushion Complete (L,R Side)	1
P4	PQPN668Z	Cushion	1

Ref. No.	Part No.	Part Name & Description		Pcs
		MAIN BOARD PARTS		
PCB1	PQWP130810B3	Main P.C. Board Ass'y (RTL)		1
		(ICs)		
IC100	PQVIH63B03XP	IC		1
IC101	PQWI30810BX3	IC		1
IC102	Not Used			
IC103	PQVIHM6264LA	IC		1
IC104	PQVITC7H139P	IC		1
IC105	PQVIPD4011BC	IC		1
IC106	PQVITC7H04P	IC		1
IC107	PQVIM7H32P	IC		1
IC108	Not Used			
IC109	PQVIMS6242BS	IC		1
IC110-112	Not Used			
IC113	PQVI672191F	IC		1
IC114,115	PQVIMT8870CE	IC		2
IC116	PQVITP5089N	IC		1
IC117	Not Used			
IC118	PQVINJM4558D	IC		1
IC119-124	Not Used			
IC125-130	PQVIM402101P	IC		6
IC131-135	Not Used			
IC136	PQVI671152F	IC		1
IC200A,200B ,200C	PQVINJM4558D	IC		3
IC201A,201B ,201C	PQVIPD4066BC	IC		3
IC711	PQVISV7860SG	IC		1
IC712	PQVIPD4066BC	IC		1
IC900,901 ,902	PQVINJM4558D	IC		3
IC903	PQVIBU3140	IC		1
		(TRANSISTORS)		
Q114,115 ,116	DTC143XA	Transistor (Si)		3
Q117,118	DTC144A	Transistor (Si)	S	2
Q119,120	DTA143A	Transistor (Si)	S	2
Q131,132	2SC2021	Transistor (Si)		2
Q200A,200B ,200C	2SA1626	Transistor (Si)	⚠	3
Q201A,201B ,201C	2SC2235	Transistor (Si)	⚠	3
Q202A,202B ,202C,203A ,203B,203C ,204A,204B ,204C,205A ,205B,205C	DTC144A	Transistor (Si)	S	12
Q210A,210B ,210C	DTA124XA	Transistor (Si)		3
Q300A-300H	2SB644	Transistor (Si)		8
Q301A-301H	2SD639	Transistor (Si)		8
Q302A-302H	PQVTDTC114Y	Transistor (Si)		8
Q303A-303H	DTA143EA	Transistor (Si)	S	8
Q304A-304H	2SC2021	Transistor (Si)		8
Q305A-305H	2SA937	Transistor (Si)		8
Q306A-H	2SC1740S	Transistor (Si)		8
Q307	DTC144A	Transistor (Si)	S	1
Q711	DTC144A	Transistor (Si)	S	1
Q900	2SC2021	Transistor (Si)		1
Q901	2SC2878	Transistor (Si)		1

Ref. No.	Part No.	Part Name & Description		Pcs
		(DIODES)		
D101	MA4091	Diode (Si)		1
D102-105	Not Used			
D106-109	1SS131	Diode (Si)		4
D110	Not Used			
D111	1SS131	Diode (Si)		1
D112	MA4039	Diode (Si)		1
D113,114	Not Used			
D115	1SV124	Diode (Si)		1
D116,117	1SS131	Diode (Si)		2
D200A,200B ,200C	PQVDS1YB40F1	Diode (Si)	⚠	3
D201A,201B ,201C	PQVDHZS2B1	Diode (Si)	⚠	3
D202A-202C	Not Used			
D203A,203B ,203C,204A ,204B,204C	1SS131	Diode (Si)		6
D205A,205B ,205C,206A ,206B,206C	MA4047	Diode (Si)		6
D207A-209C	Not Used			
D210A,210B ,210C	1SS131	Diode (Si)		3
D300A-300H ,301A-301H	MA4047	Diode (Si)		16
D302A-302H ,303A-303H	1SS131	Diode (Si)		16
D304A-304H	Not Used			
D305A-305H ,306A-306H ,307A-307H	1SS131	Diode (Si)		24
D308A-308H	Not Used			
D309A-309H	Not Used			
D310A-310H ,311A-311H ,312A-312H	1SS131	Diode (Si)		24
D390	1SS131	Diode (Si)		1
D701	1SS131	Diode (Si)		1
D902,903	1SS131	Diode (Si)		2
		(VARISTORS)		
ZNR20A,20B ,20C	ERZC07DK820	Varistor	⚠	3
ZNR30A-30H ,31A-31H	ERZC03DK241	Varistor		16
ZNR32A-32H	ERZC07DK820	Varistor		8
SA20A,20B ,20C,21A ,21B,21C	PQVDDSS301L	Surge Absorber	⚠	6
SA22A,22B ,22C	PQVDSAE310F1	Surge Absorber		3
		(CRYSTAL OSCILLATORS)		
X100	PQVCK6000N3Z	Crystal Oscillator		1
X101	PQVCX3579H5R	Crystal Oscillator	S	1
X102	PQVCX4000N8Z	Crystal Oscillator	S	1
X103	PQVCL3276N4Z	Crystal Oscillator		1
		(COMPONENT COMBINATIONS)		
Z100,101 ,102	EXBP88473K	Resistor Array	S	3
Z107	PQRS8B3223J	Resistor Array		1
Z110	EXBP88222K	Resistor Array	S	1
		(COILS)		
L100-103	ELEPK820KA	Choke Coil	S	4
L104	PQLQZM2R2K	Choke Coil	S	1
L105-109	Not Used			
L110,111 ,120	PQLQZM2R2K	Choke Coil	S	3

Ref. No.	Part No.	Part Name & Description		Pcs
L173	PQLQZM2R2K	Choke Coil	S	1
L300B-300H ,301A-301H ,302A-302H ,303A-303H	PQLQZM2R2K	Choke Coil	S	31
L200A,200B ,200C,202A ,202B,202C	PQLQZK101K	Choke Coil	⚠	6
L201A,201B ,201C,203A ,203B,203C	PQLQZK2R2K	Choke Coil	⚠	6
L300A	PQLQZM2R2K	Choke Coil	S	1
L304	ELEA100KA	Choke Coil		1
		(TRANSFORMERS)		
T100,101	PQLT2D6B	Interface Transformer		2
T200A,200B ,200C	ETA14Y85AY	Interface Transformer	⚠	11
,300A-300H T301A-301H	ETE13K38AY	Pulse Transformer		8
		(SWITCHES)		
SW100	PQSH1A12Z	Switch, Reset		1
SW101	PQSS2A20Z	Switch, System Program		1
		(RELAYS)		
RLY10A,10B ,10C	PQSL49Z	Relay		3
RLY30A-30H	PQSL41Z	Relay		8
		(VARIABLE CAPACITOR)		
VC100	PQCVTZB30B	Trimmer		1
		(THERMISTORS)		
TH1	PQRRTS104U	Thermistor		1
TH2	PQRRTS203U	Thermistor		1
		(PHOTO ELECTIC TRANSDUCERS)		
PC200A ,200B,200C	PQVITLP520	Photo Coupler	⚠	3
PC201A ,201B,201C	PQVITLP627	Photo Coupler	⚠	3
PC202A ,202B,202C	PQVITLP521	Photo Coupler	S ⚠	3
		(CAPACITORS)		
C101	ECEA1EU101	100		1
C102-106	Not Used			
C107	ECQM1H472JV	0.0047		1
C108,109	Not Used			
C110,111	ECKD1H103KB	0.01	S	2
C112,113	ECCD1H150JC	15P	S	2
C114,115	ECCD1H220JC	22P		2
C116,117	Not Used			
C118	ECEA1HU100	10		1
C119,120	Not Used			
C121	ECKD1H223MD	0.022	S	1
C122,123	ECQV1H104JZ	0.1		2
C124	ECKD1H103KB	0.01	S	1
C125,126 ,127	ECQV1H104JZ	0.1		3
C128-129	Not Used			
C130	ECKD1H102JA	0.001	S	1
C131-134	Not Used			
C135	ECKD1H223MD	0.022	S	1
C136	ECUV1H223MD	0.022	S	1
C138	ECUV1H223MD	0.022	S	1

Ref. No.	Part No.	Part Name & Description		Pcs
C139	ECKD1H223MD	0.022	S	1
C140	Not Used			
C141	ECUV1H223MD	0.022		1
C142	ECQV1H104Z	0.1		1
C143	Not Used			
C144	ECUV1H223MD	0.022	S	1
C145-147	Not Used			
C148,149	ECUV1H223MD	0.022	S	2
C149	Not Used			
C150	ECUV1H223MD	0.022		1
C151,152	Not Used			
C153	ECCD1H151JC	150P	S	1
C154	Not Used			
C155	ECUV1H223MD	0.022	S	1
C156	ECKD1H223MD	0.022	S	1
C157-159	Not Used			
C160	ECKD1H223MD	0.022	S	1
C161	ECQV1H104JZ	0.1		1
C162	ECEA1EU101	100	S	1
C163	ECQV1H104JZ	0.1		1
C164-167	Not Used			
C168	ECEA1CSS332	3300		1
C169,170	ECEA1EK470	47		2
C171-179	Not Used			
C180	ECQV1H104JZ	0.1		1
C190	ECEA1HU2R2	2.2		1
C200A,200B ,200C	ECQE2E474KZ	0.47	⚠	3
C201A,201B ,201C	ECEA1HU220	22		3
C202A,202B ,202C	ECEA1HU100	10	⚠	3
C203A,203B ,203C	ECEA1HU220	22	⚠	3
C204A,204B ,204C	ECQV1H473MD	0.047		3
C205A,205B ,205C,206A ,206B,206C	ECUV1H563MD	0.056		6
C207A,207B ,207C	ECUV1H121JC	120P		3
C208A,208B ,208C	ECQM1H183JV	0.018		3
C209A,209B ,209C	ECUV1H183KB	0.018		3
C210A,210B ,210C,211A ,211B,211C	ECUV1H563MD	0.056		6
C212A,212B ,212C	ECUV1H121JC	120P		3
C220A,220B ,220C	ECKDKC222KB	0.0022	⚠	3
C221A,221B ,221C	ECKD1H102JA	0.001	S	3
C250	ECEA1EU102	1000		1
C300A-300G	ECEA1HU2R2	2.2		7
C300H	ECEA1HKS2R2	2.2		1
C301A-301H ,302A-302H	ECEA1HU3R3	3.3	S	16
C303A-303H	ECEA1HU4R7	4.7		8
C304A-304H ,305A-305H	ECUV1H103KB	0.01	S	16
C306A-306H	ECEA1HU010	1		8
C390	ECEA1EU101	100		1
C400	ECEA1VU471	470		1
C500-504	ECKD1H223MD	0.022	S	5
C511,512 ,513	ECQV1H273JZ	0.027		3
C711, 712	ECEA1HU4R7	4.7		2
C713	ECQV1H104JZ	0.1		1
C714	ECEA1HU100	10		1
C900	ECQV1H473JZ	0.047		1
C901	ECQV1H104JZ	0.1		1
C902	ECQM1H332JV	0.0033		1
C903	ECQV1H683JZ	0.068		1
C904	ECQV1H104JZ	0.1		1

Ref. No.	Part No.	Value		Pcs
C905	ECQM1H682JV	0.0068		1
C906,907	Not Used			
C908	ECQM1H222JV	0.0022		1
C909	ECKD1H102JA	0.001	S	1
C910,911	ECEA1HU4R7	4.7		2
C912	ECQV1H333JZ	0.033		1
C913	ECKD1H102JA	0.001	S	1
C914-916	Not Used			
C917	ECEA1EU470	47		1
C918	ECQM1H332JV	0.0033		1
C919	Not Used			
C920	ECKD1H681KB	680P		1
C921	ECCD1H151JC	150P	S	1
		(RESISTORS)		
R101	ERDS2TJ272	2.7k		1
R102-105	Not Used			
R106	ERDS2TJ821	820		1
R107-109	Not Used			
R110-118	ERDS2TJ151	150		9
R119-121	Not Used			
R122	ERDS2TJ103	10k		1
R123	ERDS2TJ223	22k		1
R124	Not Used			
R125	ERDS2TJ105	1M		1
R126	ERDS2TJ222	2.2k		1
R127,128	ERDS2TJ103	10k		2
R129	ERDS2TJ561	560		1
R130	ERDS2TJ681	680		1
R131	ERDS2TJ103	10k		1
R132	Not Used			
R133,134	ERDS2TJ473	47k		2
R135	Not Used			
R136	ERDS2TJ103	10k		1
R137	PQ4R18XJ223	22k		1
R138,139	Not Used			
R140	ERDS2TJ104	100k		1
R141	ERDS2TJ333	33k		1
R142	ERDS2TJ334	330k		1
R143	ERDS2TJ104	100k		1
R144	ERDS2TJ333	33k		1
R145	ERDS2TJ334	330k		1
R146	ERDS2TJ472	4.7k		1
R147	ERDS2TJ683	68k		1
R148,149	Not Used			
R150	ERDS2TJ102	1k		1
R151	ERDS2TJ333	33k		1
R152	ERDS2TJ223	22k		1
R153,154	ERDS2TJ102	1k		2
R155-158	ERDS2TJ103	10k		4
R159	PQ4R18XJ472	4.7k		1
R160	ERDS2TJ103	10k		1
R161	PQ4R18XJ472	4.7k		1
R162	ERDS2TJ103	10k		1
R163	PQ4R18XJ472	4.7k		1
R164	ERDS2TJ103	10k		1
R165-168	Not Used			
R169,170	ERDS2TJ223	22k		2
R171,172	Not Used			
R173	Not Used			
R174	ERDS2TJ225	2.2M		1
R175	ERDS2TJ154	150k		1
R176	ERDS2TJ223	22k		1
R177-184	Not Used			
R185	ERDS2TJ103	10k		1
R186-189	Not Used			
R190,191	ERDS2TJ103	10k		2
R192	ERDS2TJ102	1k		1
R193	Not Used			
R194,195	PQ4R18XJ472	4.7k		2
R196,197	PQ4R18XJ222	2.2K		2
R200A,200B ,200C	PQRD12TJ223	22k	S ⚠	3
R201A,201B ,201C	ERDS2TJ122	1.2k	⚠	3

Ref. No.	Part No.	Part Name & Description	Pcs
R202A,202B ,202C	ERDS2TJ104	100k ⚠	3
R203A,203B ,203C	ERDS2TJ472	4.7k ⚠	3
R204A,204B ,204C	ERDS2TJ5R6	5.6 ⚠	3
R205A-205C	Not Used		
R206A,206B ,206C	ERDS2TJ103	10k ⚠	3
R207A,207B ,207C	ERDS2TJ472	4.7k ⚠	3
R208A,208B ,208C	ERD25TJ390	39 S ⚠	3
R209A,209B ,209C	ERDS2TJ102	1k	3
R210A,210B ,210C	ERDS2TJ183	18k	3
R211A,211B ,211C	ERDS2TJ392	3.9k	3
R212A,212B ,212C	PQ4R18XJ122	1.2k	3
R213A,213B ,213C	PQ4R18XJ122	1.2k	3
R214A,214B ,214C	PQ4R18XJ391	390	3
R215A,215B ,215C	PQ4R18XJ122	1.2k	3
R216A,216B ,216C	ER016CKF1003	100k	3
R217A,217B ,217C	PQ4R18XF1003	100k	3
R218A,218B ,218C	PQ4R18XF3003	300k	3
R219A,219B ,219C ,220A,220B ,220C	ER016CKF3003	300k	6
R221A,221B ,221C,222A ,222B,222C ,223A,223B ,223C	ERDS2TJ122	1.2k	9
R224A,224B ,224C,225A ,225B,225C	ERDS2TJ471	470	6
R226A,226B ,226C	ERDS2TJ122	1.2k	3
R227A,227B ,227C,228A ,228B,228C	ER016CKF1003	100k	6
R229A,229B ,229C	ER016CKF3003	300k	3
R230A-230C	Not Used		
R231A,231B ,231C,232A ,232B,232C	ERDS2TJ473	47k	6
R233A,233B ,233C,234A ,234B,234C	ERDS2TJ473	47k	6
R235A,235B ,235C	ERDS2TJ683	68k	3
R300A, 300B	PQ4R18XJ220	22	2
R300C-300H	PQ4R18XJ220	22	6
R301A-301H	ERDS2TJ682	6.8k	8
R302A-302H	ERDS2TJ220	22	8
R303A-303H	ERDS2TJ682	6.8k	8
R304A-304H	Not Used		
R305A-305H	Not Used		
R306A-306H	Not Used		
R307A-307H	ERDS2TJ121	120	8
R308A-308H	ERDS2TJ121	120	8
R309A-309H	ERDS2TJ101	100	8
R310A-310H	ERDS2TJ222	2.2k	8
R311A-311H	ERDS2TJ472	4.7k	8
R312A-312H	ERDS2TJ3R3	3.3	8
R319A-319H	ERDS2TJ102	1k	8

Ref. No.	Part No.	Part Name & Description	Pcs
R320A-320H	PQRD2TJ102	1k	8
R330A-330H	Not Used		
R390	ERDS2TJ822	8.2K	1
R391,392	ERDS2TJ103	10k	2
R399	ERDS2TJ562	5.6k	1
R500,501 ,502	ER016CKF1151	1.15k	3
R503-510	ER016CKF49R9	49.9	8
R511,512	ER016CKF6491	6.49k	3
R514-521	ER016CKF1101	1.1k	8
R522,523	ER016CKF1151	1.15k	2
R701	ERDS2TJ821	820	1
R702	ERDS2TJ102	1k	1
R710	ERDS2TJ122	1.2k	1
R711	ERDS2TJ473	47k	1
R712,713	ERDS2TJ104	100k	2
R714	ER016CKF1104	1.1M	1
R715	ERDS2TJ122	1.2k	1
R716,717	ERDS2TJ473	47k	2
R900,901 ,902	ERDS2TJ104	100k	3
R903	ERDS2TJ224	220k	1
R904	ERDS2TJ124	120k	1
R905-911	Not Used		
R912,913 ,914	ERDS2TJ103	10k	3
R915-918	Not Used		
R919	ERDS2TJ123	12K	1
R920	ERDS2TJ103	10k	1
R921	ERDS2TJ563	56k	1
R922	ERDS2TJ102	1k	1
R923	ERDS2TJ223	22k	1
R924	ERDS2TJ273	27k	1
R925	ERDS2TJ681	680	1
R926	ERDS2TJ103	10k	1
R927	ERDS2TJ183	18k	1
R928	ERDS2TJ103	10k	1
R929	ERDS2TJ333	33k	1
R930	ERDS2TJ222	2.2k	1
R931	ERDS2TJ334	330k	1
R932,933	ERDS2TJ472	4.7k	2
R934,935	ERDS2TJ332	3.3k	2
R950	ERDS2TJ273	27k	1
R951	ERDS2TJ393	39k	1
R999	ERDS2TJ183	18k	1
		(OTHERS)	
E101	PQJJ1D3Z	Jack, External Music	1
E102	PQJJ1G1Z	Jack, Paging	1
E103	PQJJ1TA3Y	Jack,CO (MJ1A, MJ1B, MJ1C) ⚠	3
E104	PQJJ1TB16Z	Jack, Station Modular (MJ2A-2H)	8
E105	PQJP14D49Z	Connector Plug, 14P (CN7)	1
E106	PQJP2F4Z	Connector Plug, 2P	1
E107	PQJP4D14Z	Connector Plug, 4P (CN6)	1
E108	PQJP7G3Z	Connector Plug, 7P (CN5)	1
E109	PQJP8D3Z	Connector Plug, 8P (CN4)	1
E110	PQJP3D9Z	Connector Plug, 3P (CN8)	1
E111	PQJJ1TB25Y	Jack, (MJ3)	1

POWER REGULATOR BOARD PARTS

PCB2	PQWP230810M1	Power Regulator P.C. Board Ass'y (RTL)	1
		(ICs)	
IC1	AN78L18	I C S	1
IC2	Not Used		
IC3	AN78M12F	I C S	1
IC4,5	Not Used		
IC6	PQVIPD4069UC	I C S	1
IC7,8	AN78M15F	I C S	2

Ref. No.	Part No.	Part Name & Description		Pcs
		(TRANSISTORS)		
Q1	2SD1275	Transistor (Si)		1
Q2	2SD637	Transistor (Si)		1
Q3	2SD1406	Transistor (Si)		1
Q4,5	2SC2021	Transistor (Si)		2
Q6	DTC143XA	Transistor (Si)		1
Q7,8	2SD1406	Transistor (Si)		2
Q9,10	DTC144A	Transistor (Si)	S	2
		(DIODES)		
D1	PQVD2B4B41	Diode (Si)		1
D2A, 2B	PQVDD1NL20	Diode (Si)		2
D3,4	1SR35-200	Diode (Si)	S	2
D5	Not Used			
D6	MA1068	Diode (Si)	S	1
D7	MA4200	Diode (Si)		1
D8	Not Used			
D9,10,11	1SR35-200	Diode (Si)	S	3
D12	MA4091	Diode (Si)		1
D13	MA4062	Diode (Si)		1
D14,15	1SR35-200	Diode (Si)	S	2
D16	Not Used			
D17	1SR35-200	Diode (Si)	S	1
D18	MA4051	Diode (Si)		1
D19	1SS131	Diode (Si)		1
		(RELAY)		
RLY1	PQSL50Z	Relay		1
		(CAPACITORS)		
C3	EECW0H104Z1N	100000		1
C4	Not Used			
C5	ECET35S222SW	2200		1
C6	ECET50S682SW	6800		1
C7	ECET35S222SW	2200		1
C8	ECEA1HU101	100		1
C9	ECEA1VU471	470		1
C10	Not Used			
C11	ECEA1EU101	100		1
C12	Not Used			
C13	ECEA1EU331	330		1
C14	ECEA1HU100	10	S	1
C15,16	ECKD1H103KB	0.01		2
C17	ECEA1AU222	2200	S	1
C18	ECEA1HU100	10	S	1
C19	ECEA2AN100	10		1
C20	Not Used			
C21	ECEA1HU101	100		1
		(RESISTORS)		
R1	ERDS2TJ332	3.3k		1
R2	ERDS2TJ102	1k		1
R3	ERDS2TJ472	4.7k		1
R4	ERDS2TJ332	3.3k		1
R5	ERDS2TJ122	1.2k		1
R6	ERDS2TJ102	1k		1
R7	ERDS2TJ472	4.7k		1
R8	ERDS2TJ223	22k		1
R9,10	ERDS2TJ683	68k		2
R11,12	PQRD2VJ2R7	2.7		2
R13	ERDS2TJ102	1k		1
R14	Not Used			
R15	ERDS2TJ471	470		1
R16	ERDS2TJ472	4.7k		1
R17	ERDS2TJ223	22k		1
R18	ERDS2TJ473	47k		1
R19	ERDS2TJ332	3.3k		1
R20	ERDS2TJ822	8.2k		1
R21	ERDS2TJ274	270k		1

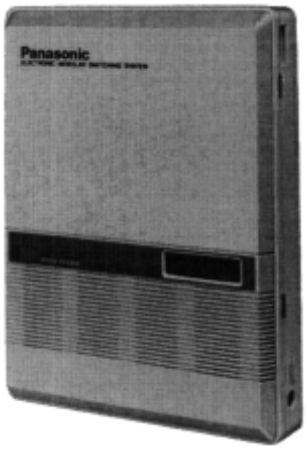
Pcs	Ref. No.	Part Name & Description	Pcs
R22,23,24	Not Used		
R25,26	ERDS2TJ272	2.7k	2
R27,28	ERDS2TJ223	22k	2
R29,30	PQRD1VJ3R3	3.3	2
R31	PQRD12TJ101	100	1
		(OTHERS)	
E1	XBA1C15NU100	Fuse (F2,F3)	2
E2	PQJP5D30Z	Connector Plug, 5P (CN1)	1
E3	PQJP5D48Z	Connector Plug, 5P (CN2)	1
E4	PQJP5D7Z	Connector Plug, 5P (CN3)	1
E5	PQJS7L30Z	Connector Socket, 7P (w/Lead) (J5)	1
E6	PQJS8L30Z	Connector Socket, 8P (w/Lead) (J4)	1
E7	PQJS3L32Z	Connector Socket, 3P (J8)	1
		LED BOARD PARTS	
PCB3	PQWP3T30810M	LED P.C. Board Ass'y (RTL)	1
		(DIODES)	
D800	LN220RPH	LED	1
D801	LN420YPH	LED	1
D802	LN320GPH	LED	1
		(OTHERS)	
E800	PQJS4R31Z	Connector Socket, 4P (w/Lead) (J6)	1
E801	PQHR402Z	Spacer, LED	1
		POWER SUPPLY PARTS	
PCB4	PQWP430810X1	Power P.C. Board Ass'y (RTL) (with/ C601,C602,C604,C605, ZNR600, L600, E603, E604 and E606)	1
		(CAPACITORS)	
C601,602	ECKDKC222KB	0.0022 S	2
C604,605	ECQU2A473MN	0.047	2
		(VARISTOR)	
ZNR600	ERZC14DK471U	Varistor	1
		(SWITCH)	
SW1	EST15704V	Switch, Power	1
SW2	PQSR4A03Z	Switch, Voltage Selector	1
		(TRANSFORMERS)	
T1	PQLT5M9X4A	Power Transformer	1
T2	PQLT1K9M1A	Bell Transformer	1
		(COIL)	
L600	PQLE61	Coil	1
		(OTHERS)	
E600	PQWAT616BX	Power Cord Assembly	1
E601	PQUV36Y	Power Box Cover	1
E602	PQUV37Y	Power Box	1
E603	PQJP7C1Z	Connector Plug, 7P	1
E604	PQJS5L30Z	Connector Socket, 7P (w/Lead) (J3)	1
E605	PQMD4012Z	Bracket, Power Box	1
E606	XBA2F15NU2	Fuse	1
E607	PQQT4181Z	Label	1
E608	RUV184Z	Cover, Voltage Selector Switch	1

ORDER NO. KM48808739C1
F5

Service Manual

EASA-PHONE

ELECTRONIC MODULAR SWITCHING SYSTEM **KX-T30810-1**



SPECIFICATIONS/ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
NAME AND LOCATION/НАИМЕНОВАНИЕ И РАСПОЛОЖЕНИЕ
CONNECTION/ПОДСОЕДИНЕНИЕ
PROGRAMMING/ПРОГРАММИРОВАНИЕ
IC I/O DATA/ЦОКОЛЕВКА И ФУНКЦИОНАЛЬНОЕ НАЗНАЧЕНИЕ ВЫВОДОВ МИКРОСХЕМ
ADJUSTMENTS/РЕГУЛИРОВКИ
BLOCK DIAGRAM/БЛОК-СХЕМА
SCHEMATIC DIAGRAMS/ПРИНЦИПИАЛЬНЫЕ СХЕМЫ
WIRING CONNECTION DIAGRAM/СХЕМА СОЕДИНЕНИЙ
IC BLOCK DIAGRAM/БЛОК-СХЕМА ИНТЕГРАЛЬНЫХ МИКРОСХЕМ
TERMINAL GUIDE OF IC`s, TRANSISTORS AND DIODES/ЦОКОЛЕВКА ИНТЕГРАЛЬНЫХ СХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
EXPLODED VIEW/СБОРОЧНЫЙ ЧЕРТЕЖ
ACCESSORIES AND PACKING MATERIALS/ПРИНАДЛЕЖНОСТИ И УПАКОВОЧНЫЕ МАТЕРИАЛЫ
REPLACEMENT PARTS LIST/СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

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Carolina, Puerto Rico 00630

SPECIFICATIONS

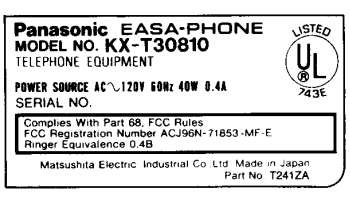
General Description

1. Capacity	Outsides (CO)	3	
	Stations	8	
2. Control Method	Stored Program CPU: 8 bits CPU, 4 bits CPU Control ROM: 48 KB, Control RAM: 8 KB		
3. Switching	Space Division CMOS Crosspoint Switch		
4. Power Supplies	Primary	AC 120 V 60 Hz	
	Secondary	Station Supply Volt: +26 V, Circuit Volt: +5 V, +12 V, +18 V, +26 V	
	Power Failure	●3 outsides assigned to stations (1 through 3) ...power failure transfer ●System operation for 4 hours by optional Backup Adaptor.	
5. Dialing	Outward	Dial Pulse	10PPS
		Tone Dial	
	Internal	Dial Pulse	10PPS, 20PPS
		Tone Dial	
	Mode Conversion	DP-DTMF, DTMF-DP	
6. Connector	Outsides (CO)	Modular Jack (RJ-11)	
	Station	Modular Jack	
	Paging Output	Pin Jack (PCA JACK)	
	External Music Input	two-conductors Jack (MINI JACK 9/64 inch diameter)	
7. EXT Connection	Cable	1 pair wire (Standard Telephone) 2 pair wire (KX-T30830/KX-T30820)	
8. Intercom Paths	3		
9. Dimensions	334 (W)×437 (H)×107 (D) mm (13 9/32"×17 7/32"×4 7/32")		
10. Weight	5 kg (11 lb 0.4 oz)		
11. Power Consumption	40 W (Max.)		

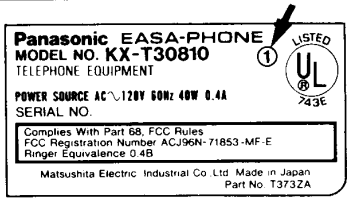
Characteristics

1. Station Loop Limit	KX-T30830/KX-T30820	40 ohms
	Standard Telephone	600 ohms including set
	Doorphone	20 ohms
2. Minimum Leak Resistance	15,000 ohms	
3. Maximum Number of Station Instruments per Line	1 (KX-T30830 or KX-T30820) or 3 (Standard telephone)	
4. Ring Voltage	90 Vrms at 20 Hz depends on Ringing Load	
5. Primary Power	120 Vac, 60 Hz, 0.4 A maximum	
6. Central Office Loop Limit	1600 ohms maximum	
7. Environmental Requirements	0–40°C, 10%–90%	
8. Hookswitch Flash Timing Range	204–1000 msec	

Design and specifications are subject to change without notice.


Panasonic EASA-PHONE
MODEL NO. KX-T30810
TELEPHONE EQUIPMENT
POWER SOURCE AC 120V 60Hz 40W 0.4A
SERIAL NO.
Complies With Part 68, FCC Rules
FCC Registration Number ACJ96N-71853-MF-E
Ringer Equivalence 0.4B
Matsushita Electric Industrial Co. Ltd. Made in Japan
Part No. T241ZA

(Model KX-T30810)



(Model KX-T30810-1)

1. There are 2 types of model KX-T30810, such as KX-T30810 and KX-T30810-1.
2. The model KX-T30810-1, have a mark ① on the name plate in figure left.
3. Please use this manual for model KX-T30810-1.

NAME AND LOCATION

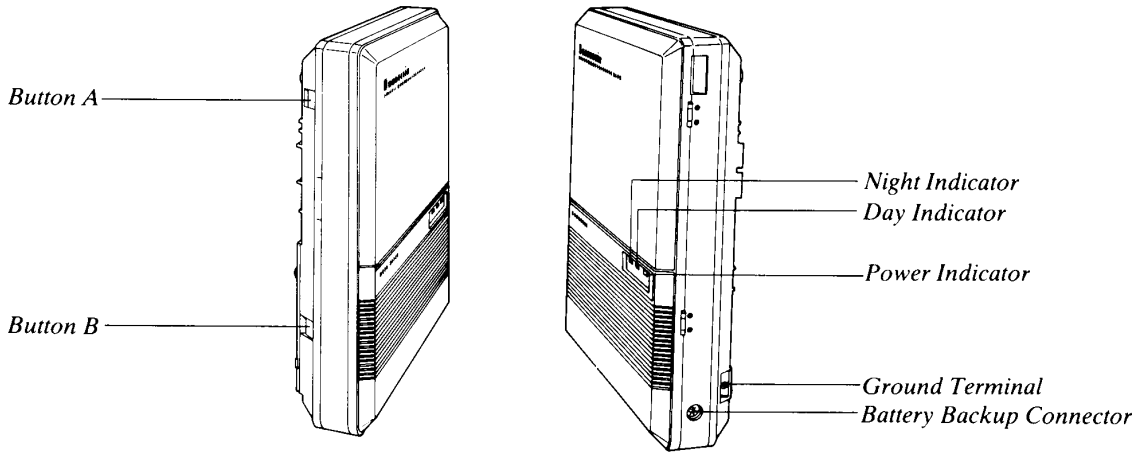


Fig. 3

Push Buttons A and B simultaneously to open Front Cover.

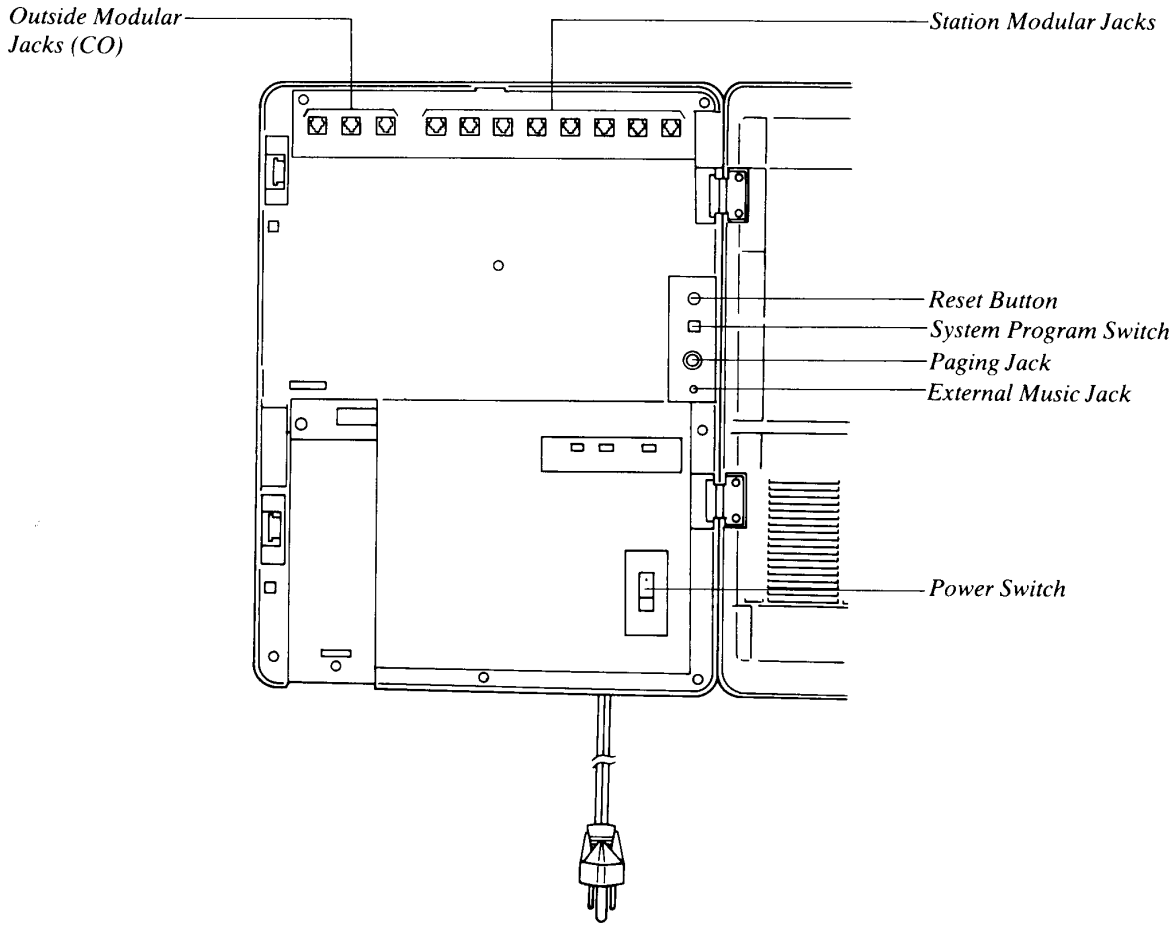


Fig. 4

CONNECTION

Cautions

1. *Do not wire the telephone cable in parallel with the AC power source, computer, telex, etc. If the cables run near those wires, shield the cables with metal tube or use shield cables and ground the shields.*

2. *When cables run on the floor, use protectors or the like to protect the wires where they may be stepped on. Avoid wiring under carpets.*

3. *Avoid using the same AC 120 V power supply outlet for computers, telexes, and other office equipment.*
Otherwise, KX-T30810 system operation may be interrupted by the induction noise from such equipments.

4. *Please use one pair telephone wire for extension connection of (telephone) equipments such as standard telephone, data terminal, answering machine, computer, etc., except proprietary telephone KX-T30830, KX-T30820, KX-T30850 etc.).*

After all the connections are completed, turn the Power Switch ON.

If an extension does not operate properly (for example: The LCD of the KX-T30830 does not display properly.), disconnect the telephone from the extension line and then connect again, or turn OFF the power switch of the KX-T30810 and then ON again after 5 minutes.

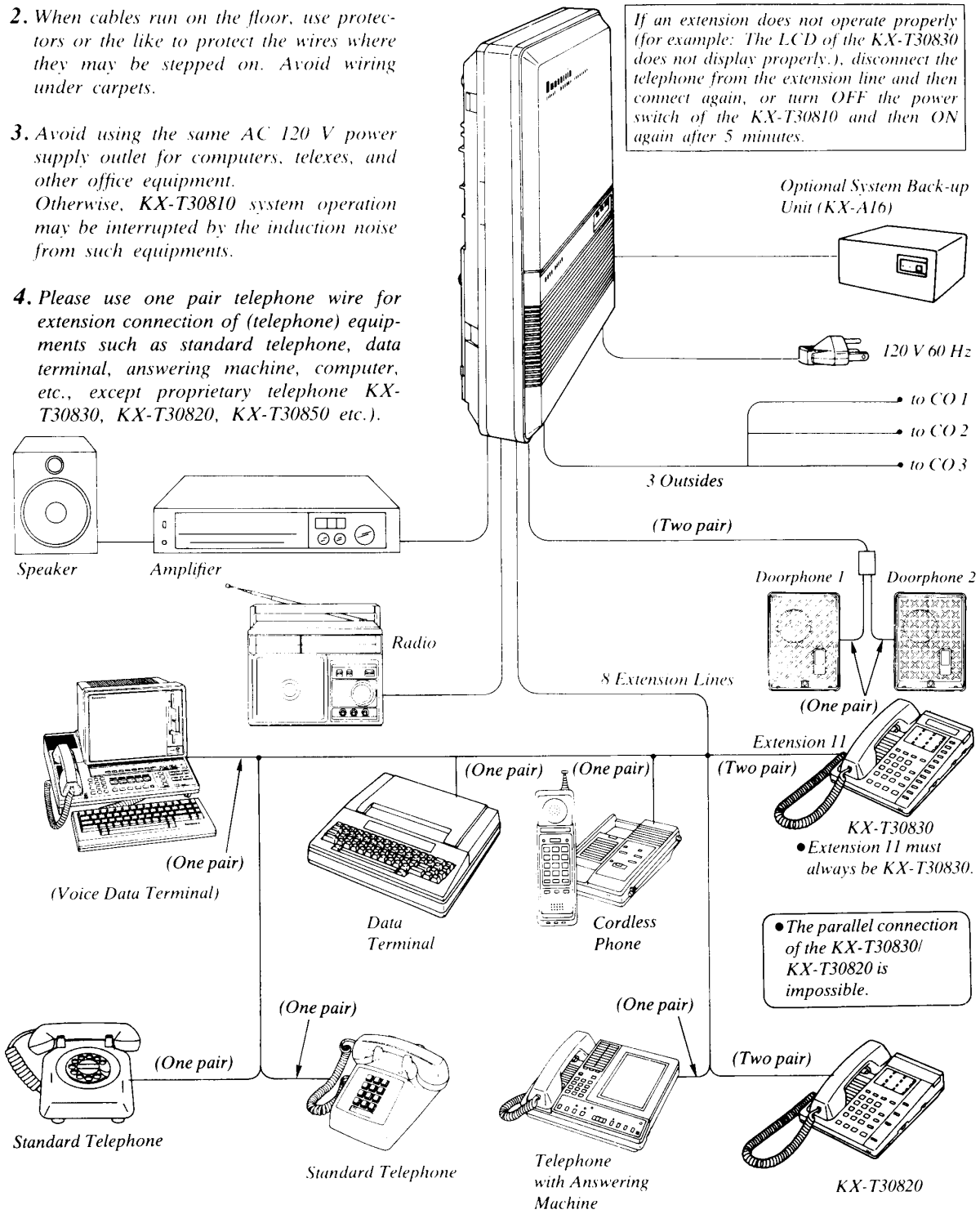


Fig. 5

PROGRAMMING

Programming Instructions

1. *At extension 11:*
All system programming changes (example: system clear, station program clear, toll restriction, hookswitch flash timing...) are done through extension 11.

> ***•Extension 11 must always be a Panasonic model, KX-T30830.***

2. *System Program Switch setting:*
The System Program Switch located on the KX-T30810 must be set to the PROGRAM position while making program changes. After all programming changes are completed, return the program switch to the SET position.

3. *Overlay:*
This overlay is used for programming the system and the program function names on buttons are inscribed on this card. Refer to page 7.

4. *Before system programming, you may operate system clear and station program clear to set default data of programming.*

A. System Clear:
1 Dial (99).
•"SYSTEM CLEAR" will be displayed.
2 Press the NEXT button.
•"ALL CLEAR?" will be displayed.
3 Press the MEMORY button to clear system.
4 To exit from system clear, press the END button.

The following features are preset as the default data.
Date and Time
System Speed Calling
CO Connection Assignment
Dial Mode (Tone/Pulse) Selection
Switching Mode (Day/Night Service)
Starting Time (Day/Night Service)
Flexible Day Outward Dialing Assignment
Flexible Night Outward Dialing Assignment
Flexible Day Ringing Assignment
Flexible Night Ringing Assignment
Toll Restriction—Class Assignment
Toll Restriction—Area Code Selection
Programmable Operator Call
Host PBX Access Codes Assignment
Automatic Answering (Automatic/Manual) Selection
Preferred Line Assignment
Programmable Call Waiting
Duration Time Count Start Mode
Hookswitch Flash Timing
Disconnect Time
Calling Party Control (CPC) Signal
Intercom Alerting Mode
Programmable Doorphone
Dial Call Pickup Group Assignment
Busy Tone Selection
Hold Time Reminder
Hold Recall Time Set
Programmable External Paging Access Tone
DTMF Receiver
Programmable Toll Prefix
Programmable Secret Auto Dial

B. Station Program Clear:
1 Dial (98).
•"EXT CLEAR" will be displayed.
2 Press the NEXT button.
•"ALL CLEAR?" will be displayed.
3 Press the MEMORY button to clear the system.
4 To exit from station clear, press the END button.

The following features are preset as the default data.
One Touch Dialing
Background Music
Call Forwarding
Data Line Security
Dial Call Pickup Deny
Do not Disturb

When the System Program Switch on the KX-T30810 is set to the PROGRAM position, the operation of the KX-T30830 will change as follows.

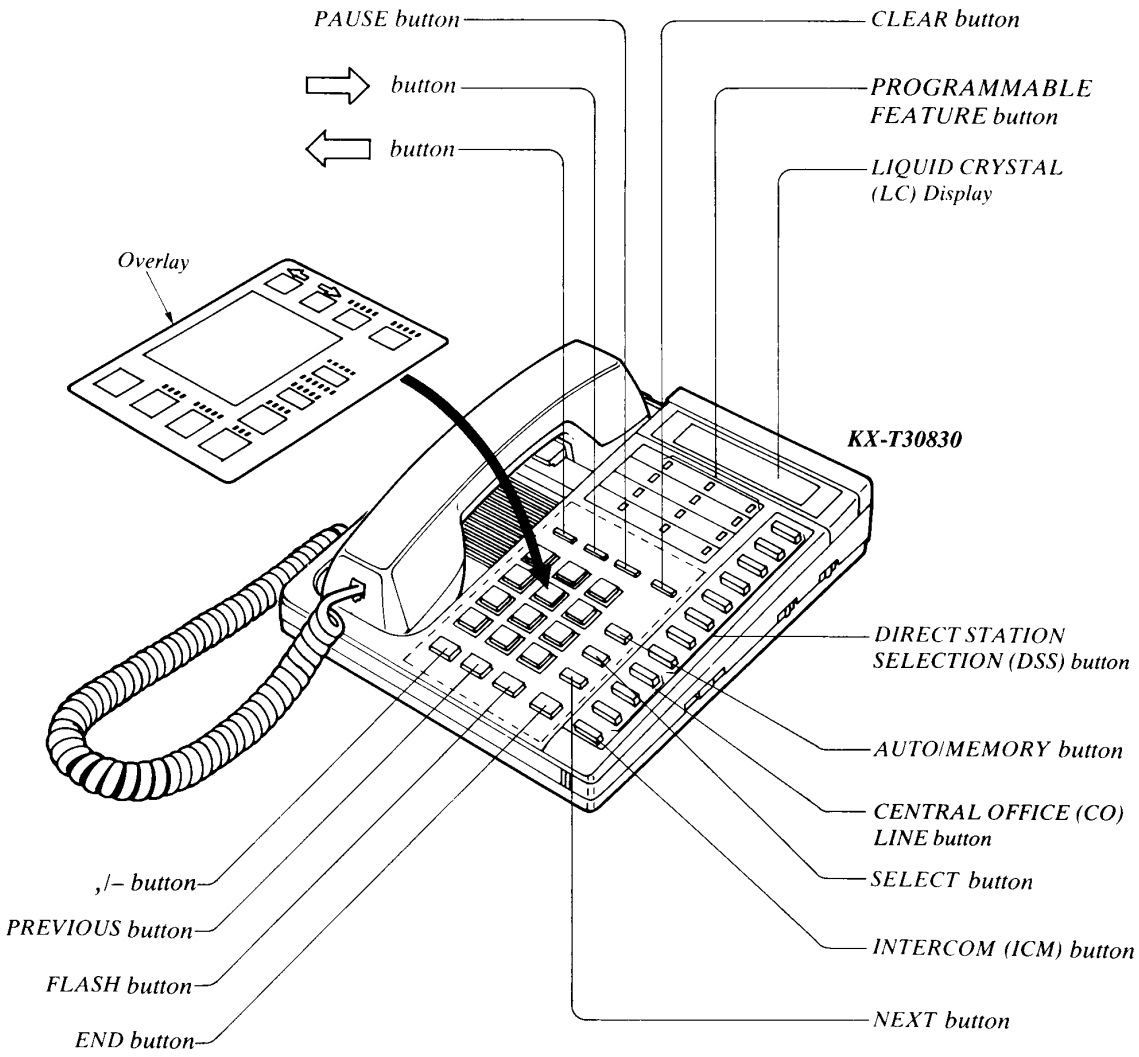
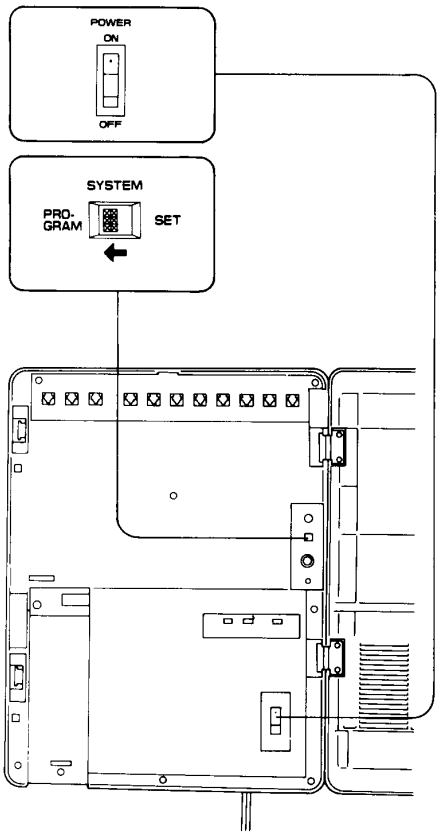


Fig. 6

Notes: 1. For details of installation, refer to the Installation Manual (Part No. PQQX5289Z).
2. For details of operation, refer to the User Guide (Part No. PQQX5291Z).

Example of Programming

1. Turn the Power Switch to ON .....



2. Set the System Program Switch to PROGRAM .....
The LCD on the KX-T30830 shows "ENTER PGM CODE".
- *Be sure the handset of the extension 11 is in the cradle and the speakerphone button of the extension 11 is off.*

3. To program automatic line access number 9 and the phone number 987-654-3210 into memory location (speed dial access) number 00.

	KX-T30830 at extension 11 (Extension 11 must always be KX-T30830.)	
1.	*Dial (01) or press the AUTO button.*	*Display* [*SPEED CALLING*]
2.	*Press the NEXT button.*	[*ENTER SPEED CODE*]
3.	*Dial (00) or press the NEXT button.*	• *If nothing is stored in access code "00",* [*00: NOT STORED*] • *If already stored the automatic line access number 9 and the phone number 123-456-7890,* [*00: -123-456-7890*]
4.	① *Dial "9".* ② *Press "—" button.* ③ *Dial "987".* ④ *Press "—" button.* ⑤ *Dial "654".* ⑥ *Press "—" button.* ⑦ *Dial "3210".*	[*00: -987-654-3210*]
5.	*Press the MEMORY button.*	[*00: -987-654-3210*]
6.	• *To program a next access code, press the NEXT button.* • *To program a desired access code, press the SELECT button and then dial the number.*	
7.	*Repeat step 4 to 6.*	
8.	*To return to the initial program mode, press the END button.*	[*ENTER PGM CODE*]

4. Return the System Program Switch to SET

■ *To make program change, start from the beginning.*

While programming if a mistake is made,

1. Press the "END" button.

2. Start programming procedure from the beginning.

- *You will hear the beeps after press the MEMORY button.*
- *The MEMORY indicator light goes on when the MEMORY button is pressed, and then Indicator light goes out when the NEXT or PREV button is pressed.*

■ PROGRAMMING TABLE

<table>
<tr><th>TO SET</th><th>PROGRAM ADDRESS</th><th>STEPS REQUIRED TO CHANGE PROGRAM</th></tr>
<tr><td>Date and Time</td><td>[00]</td><td>[NEXT] [A] [⇨] [SELECT] [⇨] [B] [⇨] [SELECT] [⇨] [C] [⇨] [D] [⇨] [SELECT] [MEMORY] [END]
└ year └ month └ day └ day of the week └ hour └ minute └ AM/PM</td></tr>
<tr><td>System Speed Calling Entry</td><td>[01]
or
[AUTO]</td><td>[NEXT] [AB] [CD] [phone number] [MEMORY]
└ [9]: automatic line access number
└ [81] through [83]: outside line access number
└ speed access code
• To advance to the next code.
[SELECT] [AB] [CD] [phone number] [MEMORY]
• To exit the speed calling entry, press [END].</td></tr>
<tr><td>CO Connection Assignment</td><td>[02]</td><td>[NEXT] [NEXT] [SELECT] [MEMORY] [END]
└ CONNECT/NO CONNECT
└ until the desired CO number appears
<table>
<tr><th></th><th>Default</th><th colspan="3">To make program change</th></tr>
<tr><td>CO(s)</td><td>all CO's</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>Connect</td><td>×</td><td></td><td></td><td></td></tr>
<tr><td>No connect</td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Dial Mode (Tone/Pulse) Selection</td><td>[03]</td><td>[NEXT] [NEXT] [SELECT] [MEMORY] [END]
└ TONE/PULSE
└ until the desired CO number appears
<table>
<tr><th></th><th>Default</th><th colspan="3">To make program change</th></tr>
<tr><td>CO(s)</td><td>all CO's</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>Tone (DTMF) mode</td><td>×</td><td></td><td></td><td></td></tr>
<tr><td>Pulse mode</td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Switching Mode (Day/Night Service)</td><td>[04]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└ MAN/AUTO
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>Manual</td><td>×</td><td></td></tr>
<tr><td>Automatic</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Starting Time (Day/Night Service)</td><td>[05]</td><td>[NEXT] [A] [⇨] [B] [⇨] [SELECT] [MEMORY] [NEXT] [C] [⇨] [D] [⇨] [SELECT] [MEMORY] [END]
└ minute └ AM/PM └ starting time for day service (hour)
└ minute └ AM/PM └ starting time for night service (hour)
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>Day plan</td><td>9:00 AM</td><td></td></tr>
<tr><td>Night plan</td><td>5:00 PM</td><td></td></tr>
</table></td></tr>
<tr><td>Flexible Day Outward Dialing Assignment</td><td>[06]</td><td>[NEXT] [NEXT] [C...E] [MEMORY] [END]
└ CO number
└ until the desired extension number appears
<table>
<tr><th></th><th>Default</th><th colspan="8">To make program change</th></tr>
<tr><td>Extensions</td><td>all extensions</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr>
<tr><td>CO 1</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO 2</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO 3</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Flexible Night Outward Dialing Assignment</td><td>[07]</td><td>[NEXT] [NEXT] [C...E] [MEMORY] [END]
└ CO number
└ until the desired extension number appears
<table>
<tr><th></th><th>Default</th><th colspan="8">To make program change</th></tr>
<tr><td>Extensions</td><td>all extensions</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr>
<tr><td>CO 1</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO 2</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CO 3</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
</table>

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM
Flexible Day Ringing Assignment	[08]	[NEXT] [NEXT] [C...E] [MEMORY] [END] └ *CO number* └ *until the desired extension number appears*
Flexible Night Ringing Assignment	[09]	[NEXT] [NEXT] [C...E] [MEMORY] [END] └ *CO number* └ *until the desired extension number appears*
Toll Restriction—Class Assignment	[10]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ *CLASS 1/2/3/4* └ *until the desired extension number appears*
Toll Restriction—Area Code Selection	[11]	[NEXT] [NEXT] [C] [MEMORY] [END] └ *area code with 3 digits* └ *until the desired memory location number appears*
Programmable Operator Call	[12]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ *ENABLE/DISABLE* └ *until the desired extension number appears*
Host PBX Access Codes Assignment	[13]	[NEXT] [NEXT] [A...D] [MEMORY] [END] └ *up to four outside access codes each with a maximum of 2 digits* └ *until the desired CO numbers appears*
Automatic Answering (Automatic/Manual) Selection	[14]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ *AUTO ANSWER/MAN ANSWER* └ *until the desired extension number appears*

Extensions	Default: all extensions	To make program change: 11	12	13	14	15	16	17	18
CO 1	×								
CO 2	×								
CO 3	×								

Extensions	Default: all extensions	To make program change: 11	12	13	14	15	16	17	18
CO 1	×								
CO 2	×								
CO 3	×								

Extensions	Default: all extensions	To make program change: 11	12	13	14	15	16	17	18
Class 1 (all calls)	×								
Class 2 (toll calls, local calls)									
Class 3 (selected area-codes, local calls)									
Class 4 (local calls)									

	Memory location number: 00	01	02	03	04	05	06	07	08	09
Area code entry										

Extensions	Default: all extensions	To make program change: 11	12	13	14	15	16	17	18
Enable	×								
Disable									

CO	Outside access codes of the host PBX			
1				
2				
3				

Extensions	Default: all extensions	To make program change: 11	12	13	14	15	16	17	18
Automatic	×								
Manual									

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM
Preferred Line Assignment	[15]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - - • • • • *(none)/CO 1/CO 2/CO 3* └ - - - *until the desired extension number appears*

	Default	To make program change							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
• • • • *(none)*	×								
CO1									
CO2									
CO3									

Programmable Call Waiting	[16]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - - - - - *ENABLE/DISABLE* └ - - *until the desired extension number appears*

	Default	To make program change							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Disable	×								
Enable									

Duration Time Count Start Mode	[17]	[NEXT] [SELECT] [MEMORY] [END] └ - - - *INSTANTLY/5S AFTER DIAL/10S AFTER DIAL*

	Default	To make program change
Instantly		
5S after dial	×	
10S after dial		

Hookswitch Flash Timing	[18]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - *300 MS/600 MS/900 MS* └ - - - - - *until the desired CO number appears*

	Default	To make program change		
CO(s)	*all CO's*	*1*	*2*	*3*
300 msec				
600 msec	×			
900 msec				

Disconnect Time	[19]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - *1.5 SEC/4.0 SEC* └ - - *until the desired CO number appears*

	Default	To make program change		
CO(s)	*all CO's*	*1*	*2*	*3*
1.5 sec	×			
4.0 sec				

Calling Party Control (CPC) Signal	[20]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - - *ENABLE/DISABLE* └ - - *until the desired CO number appears*

	Default	To make program change		
CO(s)	*all CO's*	*1*	*2*	*3*
Enable	×			
Disable				

Intercom Alerting Mode	[21]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - - - *TONE CALL/VOICE CALL* └ - - *until the desired extension number appears*

	Default	To make program change							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Tone call	×								
Voice call									

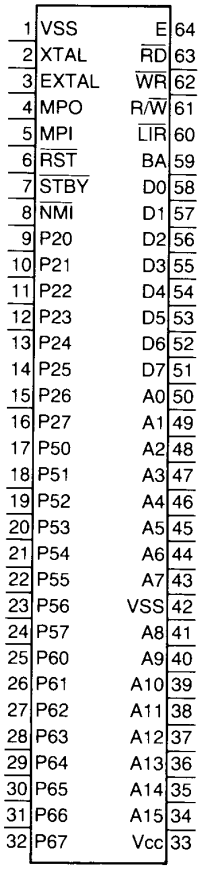
Programmable Doorphone	[22]	[NEXT] [NEXT] [SELECT] [MEMORY] [END] └ - - *D-PHONE 1, 2/1/2/ • • • (deny the ringing)* └ - - *until the desired extension number appears*

	Default	To make program change							
Extensions	*all extensions*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Doorphone 1	×								
Doorphone 2	×								
deny the ringing									

<table>
<tr><th>TO SET</th><th>PROGRAM ADDRESS</th><th>STEPS REQUIRED TO CHANGE PROGRAM</th></tr>
<tr><td>Dial Call Pickup Group Assignment</td><td>[23]</td><td>[NEXT] [NEXT] [SELECT] [MEMORY] [END]
└-------- PICKUP-G:1/2/1, 2/• • • (out of the group)
└--- until the desired extension number appears
<table>
<tr><th></th><th>Default</th><th colspan="8">To make program change</th></tr>
<tr><td>Extensions</td><td>all extensions</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr>
<tr><td>Pickup Group 1</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Pickup Group 2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>out of the group</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Busy Tone Selection</td><td>[24]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└----- TONE 1/2
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>Tone 1</td><td>×</td><td></td></tr>
<tr><td>Tone 2</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Hold Time Reminder</td><td>[25]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└------ 1 MIN/2 MIN...../9 MIN
<table>
<tr><th rowspan="2"></th><th colspan="9">minutes</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th></tr>
<tr><td>Default</td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>To make program change</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Hold Recall Time Set</td><td>[26]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└------- 30 SEC/1 MIN/1.5 MIN/2 MIN/DISABLE
<table>
<tr><th></th><th>30 seconds</th><th>1 minute</th><th>1 minute 30 seconds</th><th>2 minutes</th><th>disable</th></tr>
<tr><td>Default</td><td>×</td><td></td><td></td><td></td><td></td></tr>
<tr><td>To make program change</td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Programmable External Paging Access Tone</td><td>[27]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└------- ENABLE/DISABLE
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>Enable</td><td>×</td><td></td></tr>
<tr><td>Disable</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>DTMF Receiver Check</td><td>[28]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└---- ENABLE/DISABLE
└-- until the desired DTMF receiver appears
<table>
<tr><th></th><th>Default</th><th colspan="2">To make program change</th></tr>
<tr><td>DTMF receiver</td><td>1, 2</td><td>1</td><td>2</td></tr>
<tr><td>Enable</td><td>×</td><td></td><td></td></tr>
<tr><td>Disable</td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Programmable Toll Prefix</td><td>[29]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└----- WITH 1/ WITHOUT 1
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>With 1</td><td>×</td><td></td></tr>
<tr><td>Without 1</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Programmable secret Auto Dial</td><td>[30]</td><td>[NEXT] [SELECT] [MEMORY] [END]
└--- NO SECRET/ SECRET
<table>
<tr><th></th><th>Default</th><th>To make program change</th></tr>
<tr><td>No secret</td><td>×</td><td></td></tr>
<tr><td>Secret</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Station Program Clear</td><td>[98]</td><td>[NEXT] [MEMORY] [END]</td></tr>
<tr><td>System Clear</td><td>[99]</td><td>[NEXT] [MEMORY] [END]</td></tr>
</table>

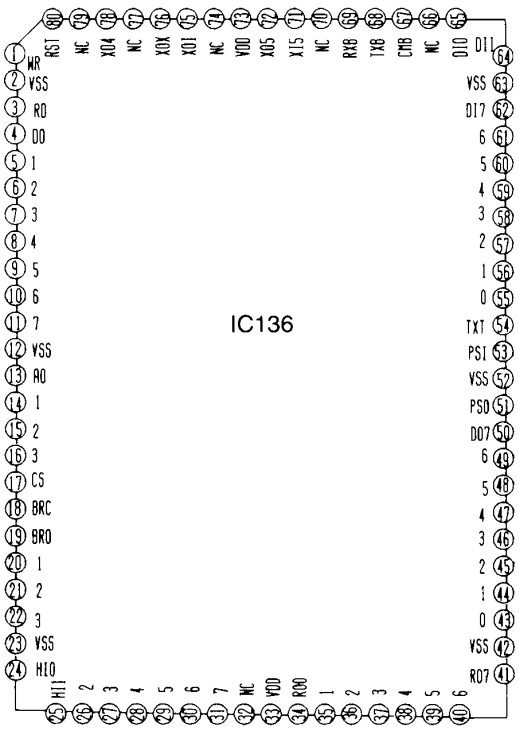
IC I/O DATA

IC100



IC100

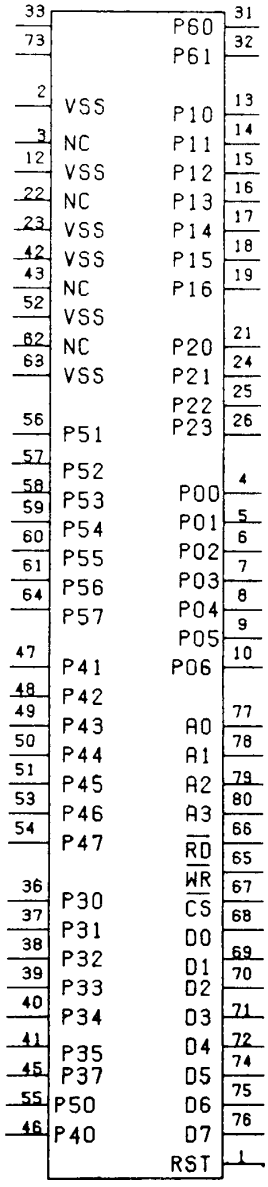
Port	Pin No.	I/O	Signal Name	High Imp.	High Level	Low Level	Remarks
NMI	8	I	CPU Restart	-----	-----	-----	
P20	9	I	CNCT1: Doorphone 1 Connect Detection	-----	Connect	Non-Connect	
P21	10	I	CNCT2: Doorphone 2 Connect Detection	-----	Connect	Non-Connect	
P22	11	I	DHK1: Doorphone 1 Connect Detection	-----	Off-Hook	On-Hook	
P23	12	I	DHK2: Doorphone 2 Connect Detection	-----	Off-Hook	On-Hook	
P26	15	I	DROP: Doorphone Adaptor Connect Detection	-----	Non-Connect	Connect	
P51	18	I	PFD: Power Failure Detection	-----	Power Failure	Normal	
P53	20	I	HALT: Halt Control Input	-----	Normal	Power Failure	
P54	21	I	TEST1	-----	Normal	Test Mode	
P55	22	I	TEST2	-----	Normal	Test Mode	
P56	23	I	STD1: DTMF Signal Detection 1	-----	Reception	Non-Reception	DTMF R1
P57	24	I	STD2: DTMF Signal Detection 2	-----	Reception	Non-Reception	DTMF R2
P63	28	O	20Hz: Ringing Signal Output	-----	-----	-----	
P64	29	O	PF: Power Failure Control	-----	Power Failure	Normal	
P65	30	O	20Hz: Ringing Signal Output	-----	-----	-----	
P66	31	O	BRK: EXT Over Current Protection	Break	On	Break	EXT11-18



IC136

Port	Pin No.	I/O	Signal Name	High Imp.	High Level	Low Level	Remarks
HI0	24	I	HK11: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI1	25	I	HK12: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI2	26	I	HK13: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI3	27	I	HK14: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI4	28	I	HK15: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI5	29	I	HK16: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI6	30	I	HK17: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
HI7	31	I	HK18: EXT Telephone Hook Detection	- - - - -	On-Hook	Off-Hook	Pullup by 2.2kΩ
RO0	34	O	RG11: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO1	35	O	RG12: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO2	36	O	RG13: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO3	37	O	RG14: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO4	38	O	RG15: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO5	39	O	RG16: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO6	40	O	RG17: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
RO7	41	O	RG18: Extension Ring Relay Control	Bell Transmission		Non-Bell Transmission	
DO0	43	O	TXD11: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO1	44	O	TXD12: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO2	45	O	TXD13: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO3	46	O	TXD14: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO4	47	O	TXD15: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO5	48	O	TXD16: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO6	49	O	TXD17: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DO7	50	O	TXD18: EMSS TEL. Data Transmission	Non-Transmission		Transmission	
DI0	55	I	RXD11: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI1	56	I	RXD12: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI2	57	I	RXD13: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI3	58	I	RXD14: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI4	59	I	RXD15: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI5	60	I	RXD16: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI6	61	I	RXD17: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ
DI7	62	I	RXD18: EMSS TEL Reception Data	- - - - -	Non-Data	Data	Pullup by 2.2kΩ

IC113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P04
P05
P06
A0
A1
A2
A3
RD
WR
CS
D0
D1
D2
D3
D4
D5
D6
D7
RST
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IC113

Port	Pin No.	I/O	Signal Name	High Imp.	High Level	Low Level	Remarks
PO0	4	O	COL1: HD Signal Generator Control 1	-----	Active	In-Active	
PO1	5	O	COL2: HD Signal Generator Control 2	-----	Active	In-Active	
PO2	6	O	COL3: HD Signal Generator Control 3	-----	Active	In-Active	
PO3	7	O	ROW1: HD Signal Generator Row 1	-----	Active	In-Active	
PO4	8	O	ROW2: HD Signal Generator Row 2	-----	Active	In-Active	
PO5	9	O	ROW3: HD Signal Generator Row 3	-----	Active	In-Active	
PO6	10	O	ROW4: HD Signal Generator Row 4	-----	Active	In-Active	
P10	13	O	A: Cross Point Address	-----	Address High	Address Low	
P11	14	O	B: Cross Point Address	-----	Address High	Address Low	
P12	15	O	C: Cross Point Address	-----	Address High	Address Low	
P13	16	O	D: Cross Point Address	-----	Address High	Address Low	
P14	17	O	E: Cross Point Address	-----	Address High	Address Low	
P15	18	O	STB0: Cross Point Strobe	-----	Active	In-Active	
P16	19	O	STB1: Cross Point Strobe	-----	Active	In-Active	
P20	21	O	XD0: Cross Point Data	-----	Data High	Data Low	
P21	24	O	XD1: Cross Point Data	-----	Data High	Data Low	
P22	25	O	XD2: Cross Point Data	-----	Data High	Data Low	
P23	26	O	XD3: Cross Point Data	-----	Data High	Data Low	
P60	31	I	OL: EXT Over Current Detection	-----	Over Current	Normal	EXT11-18
P61	32	I	PRG: System Selection	-----	System Mode	Program Mode	
P30	36	O	PDRLY: Power Failure Control	Break	Make	Break	RLY10A-10C
P31	37	O	DL3: Line Close, Dial Transmission	Break	Make	Break	CO3
P32	38	O	CF3: CO Amp Conference	Conference	Non-Conference	Conference	CO3
P33	39	O	HD3: CO Amp Hold on Music Control	Transmission	Non-Transmission	Transmission	CO3
P34	40	O	SH3: CO Amp Shunt Control	Shunt	Non-Shunt	Shunt	CO3
P35	41	O	MT3: CO Amp Mute Control	Non-Mute	Mute	Non-Mute	CO3
P37	45	I	BELL3: Bell, CPC Input	-----	Non-Bell,Line Break	Bell, Line Make	CO3
P40	46	O	DAY: Day Mode LED Control	Lights-Out	Lighting	Lights-Out	
P41	47	O	DL2: Line Close, Dial Transmission	Break	Make	Break	CO2
P42	48	O	CF2: CO Amp Conference	Conference	Non-Conference	Conference	CO2
P43	49	O	HD2: CO Amp Hold on Music Control	Transmission	Non-Transmission	Transmission	CO2
P44	50	O	SH2: CO Amp Shunt Control	Shunt	Non-Shunt	Shunt	CO2
P45	51	O	MT2: CO Amp Mute Control	Non-Mute	Mute	Non-Mute	CO2
P46	53	O	BUSY2: Doorphone 2 ON/Off Control	Off	On	Off	
P47	54	I	BELL2: Bell, CPC Input	-----	Non-Bell,Line Break	Bell, Line Make	CO2
P50	55	O	NIGHT: Night Mode LED Control	Lights-Out	Lighting	Lights-Out	
P51	56	O	DL1: Line Close, Dial Transmission	Break	Make	Break	CO1
P52	57	O	CF1: CO Amp Conference	Conference	Non-Conference	Conference	CO1
P53	58	O	HD1: CO Amp Hold on Music Control	Transmission	Non-Transmission	Transmission	CO1
P54	59	O	SH1: CO Amp Shunt Control	Shunt	Non-Shunt	Shunt	CO1
P55	60	O	MT1: CO Amp Mute Control	Non-Mute	Mute	Non-Mute	CO1
P56	61	O	BUSY1: Doorphone 1 ON/Off Control	Off	On	Off	
P57	62	I	BELL1: Bell, CPC Input	-----	Non-Bell,Line Break	Bell, Line Make	CO1

ADJUSTMENTS

■ OSCILLATION PERIOD ADJUSTMENT

Perform the following adjustment after replacing IC109.

1. Connect the AC cord to the AC power source.
2. Set the power switch to ON.
3. Connect the lead wire. (See Fig. 12)
   (After adjustment, remove the lead wire.)
4. Push the reset switch.
5. Connect the frequency counter. (See Fig. 11)
6. Set the frequency counter to PERIOD.
7. Adjust VC100 for a reading of ( ) msec on the frequency counter.

Room temperature for adjusting (°C)	Period value (msec)	Room temperature for adjusting (°C)	Period value (msec)
14~14.9	15.624943 (±0.00001)	20~20.9	15.624880 (±0.00001)
15~15.9	15.624933 (±0.00001)	21~21.9	15.624876 (±0.00001)
16~16.9	15.624922 (±0.00001)	22~27.9	15.624870 (±0.00001)
17~17.9	15.624910 (±0.00001)	28~28.9	15.624876 (±0.00001)
18~18.9	15.624899 (±0.00001)	29~29.9	15.624880 (±0.00001)
19~19.9	15.624888 (±0.00001)		

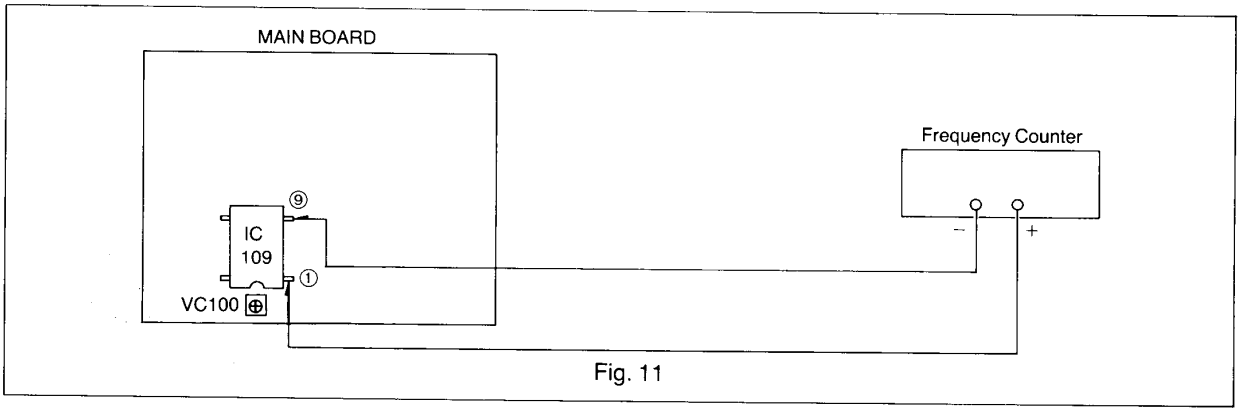


Fig. 11

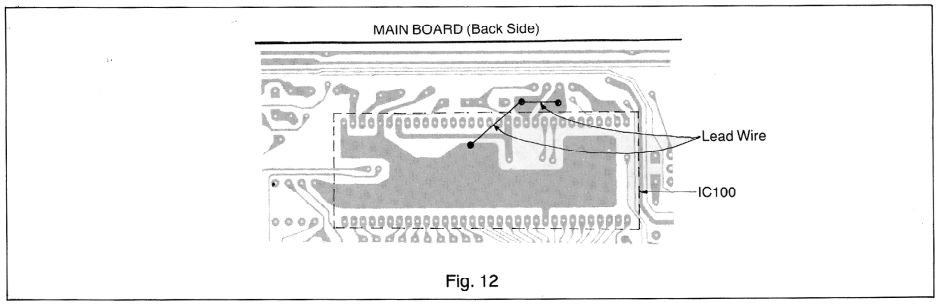
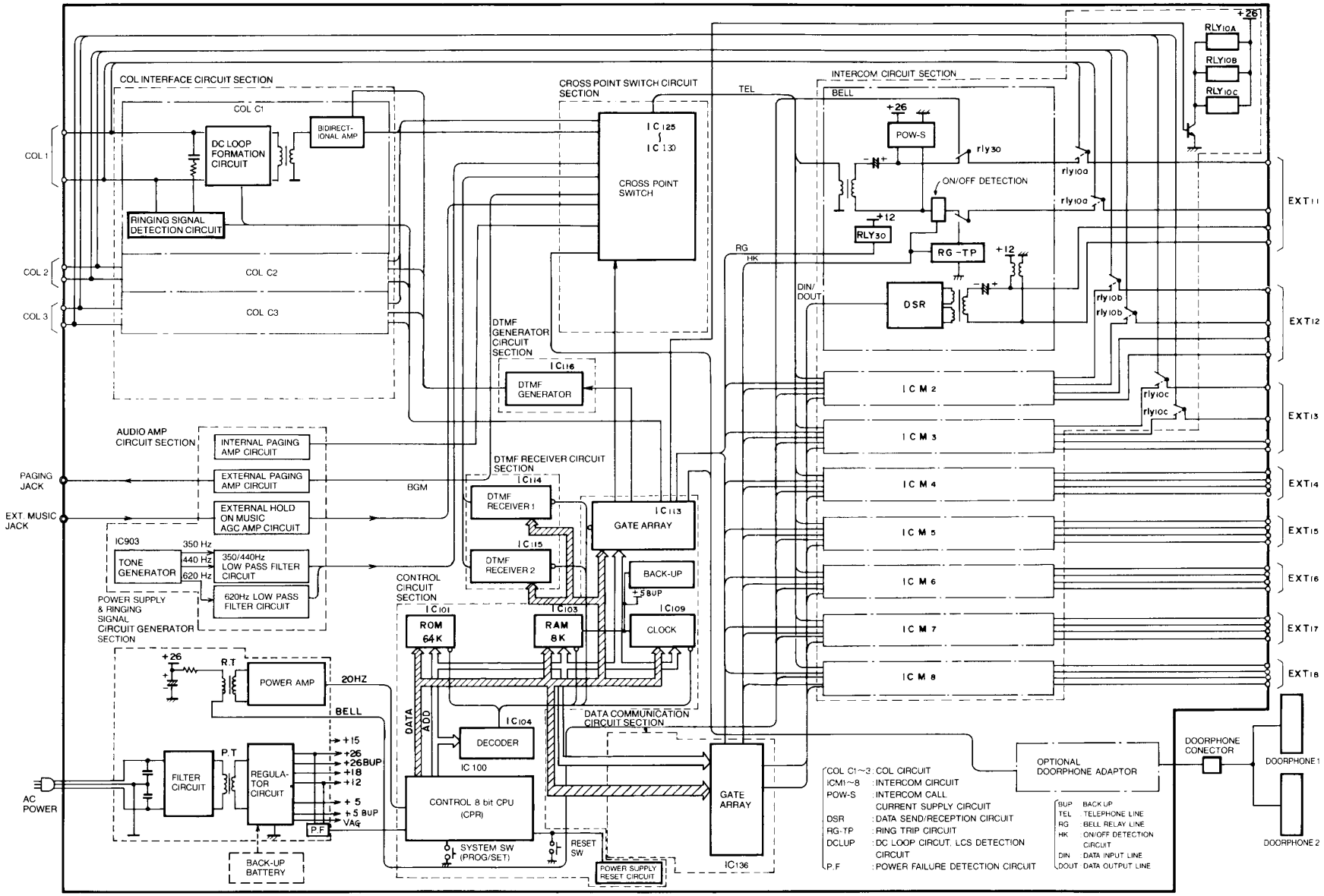


Fig. 12

BLOCK DIAGRAM



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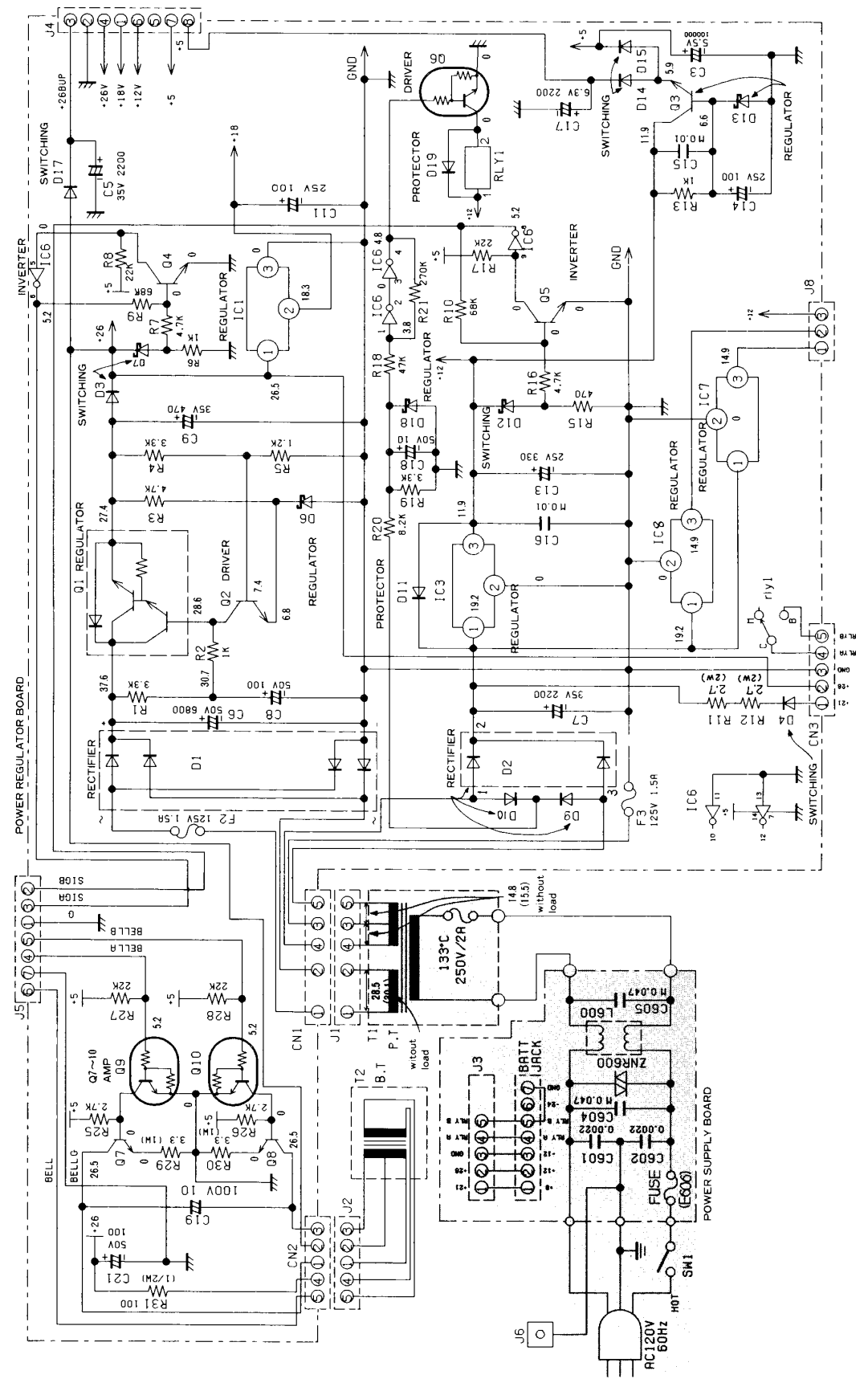
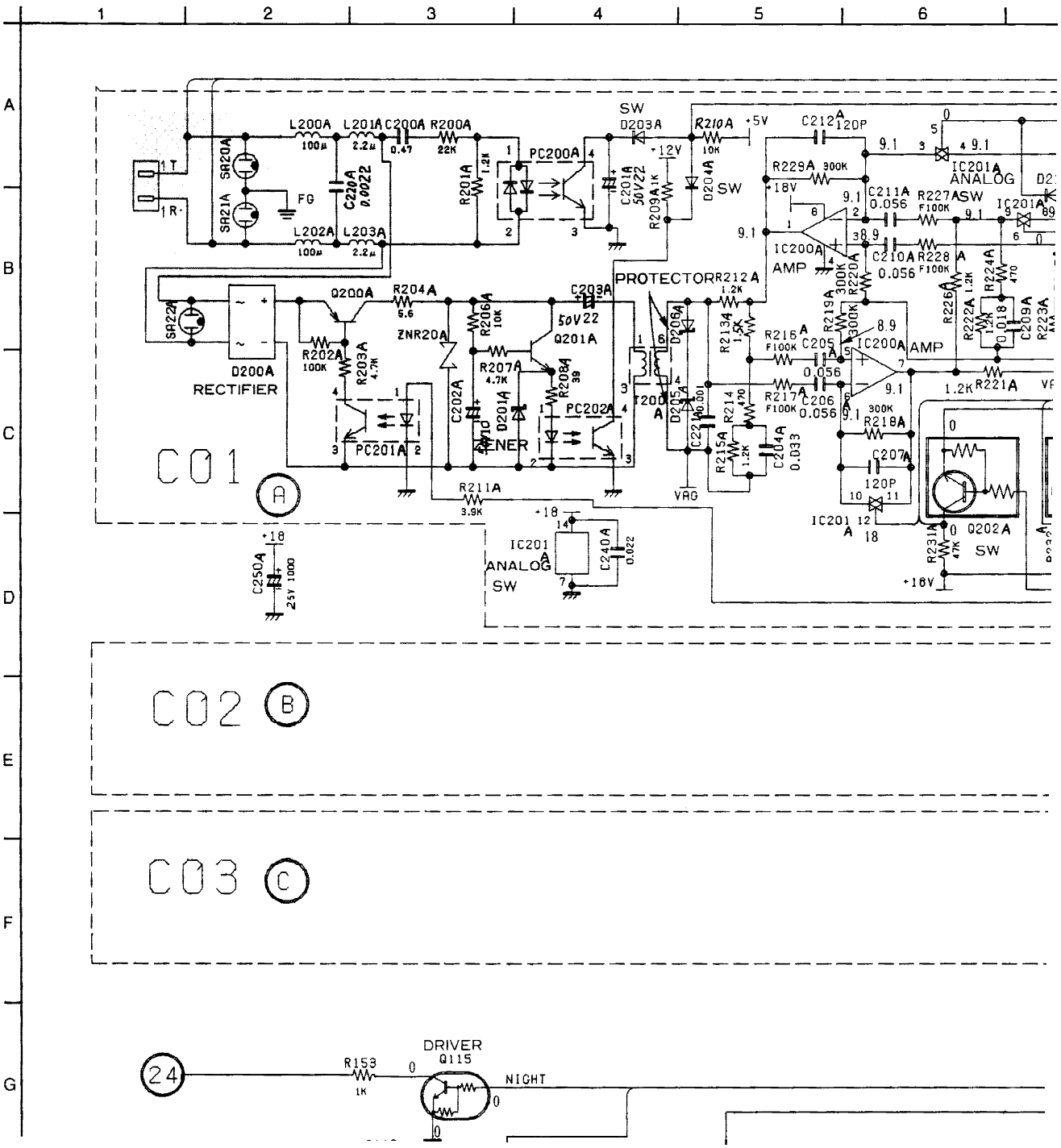
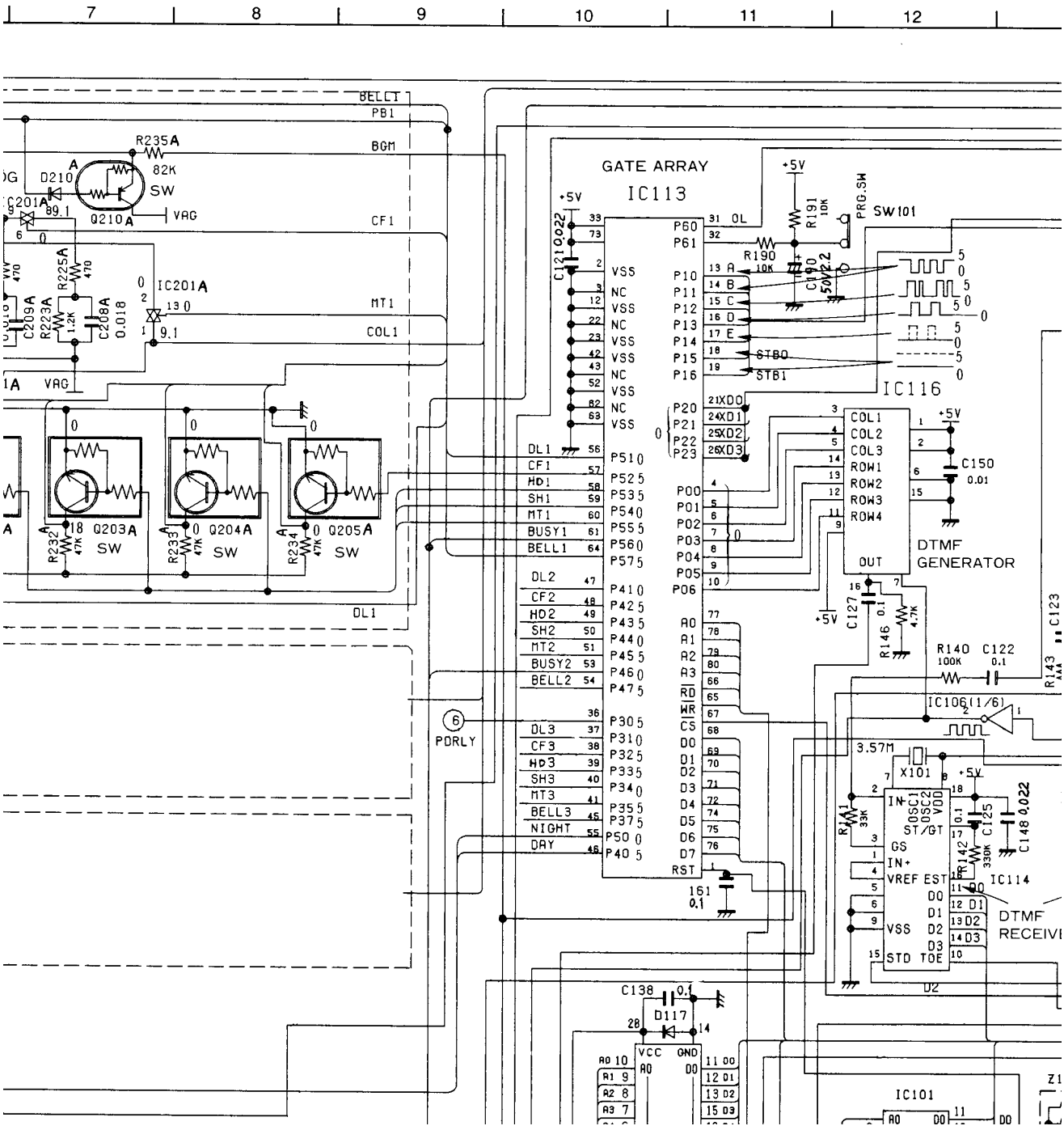
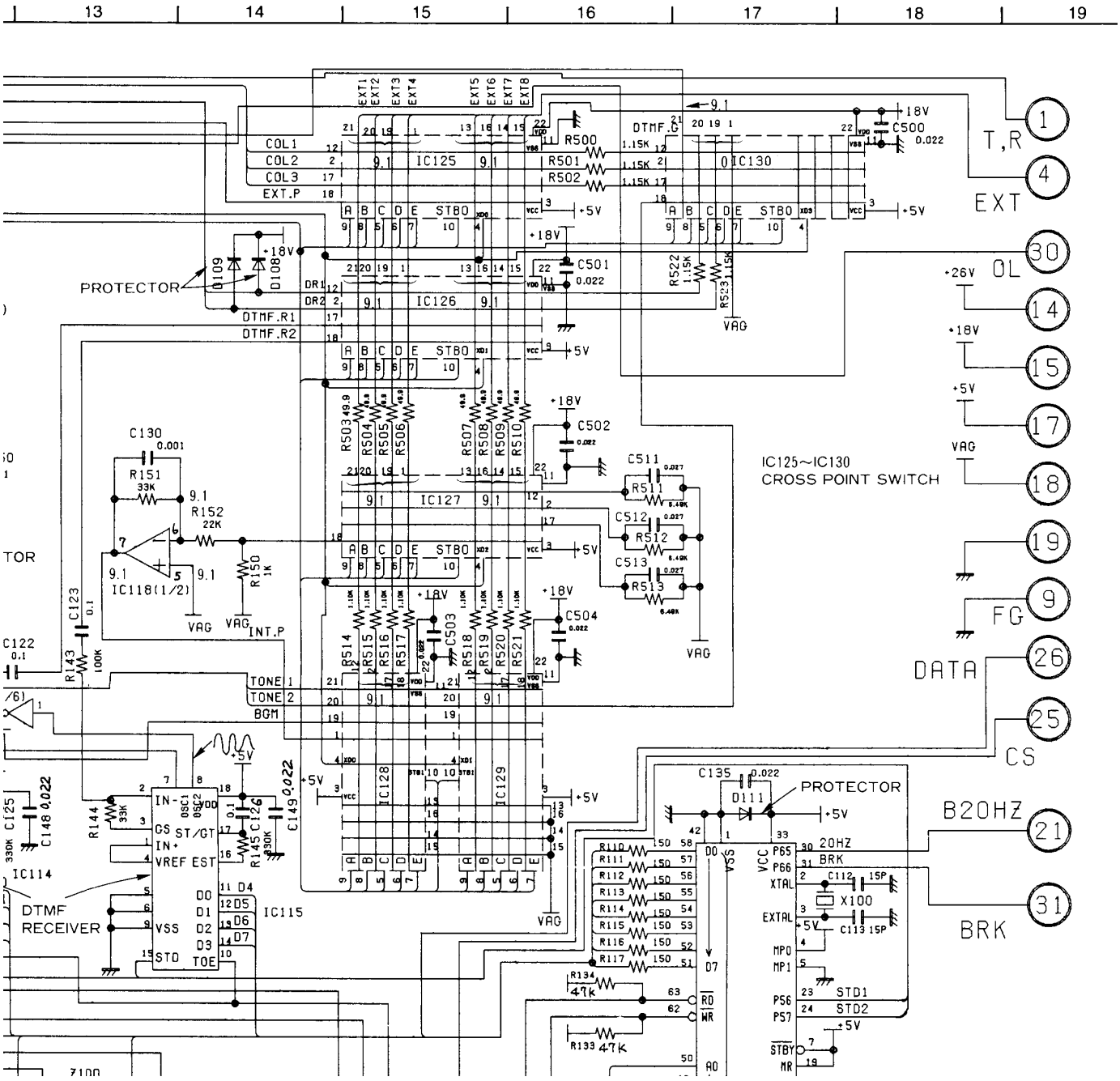
SCHEMATIC DIAGRAM

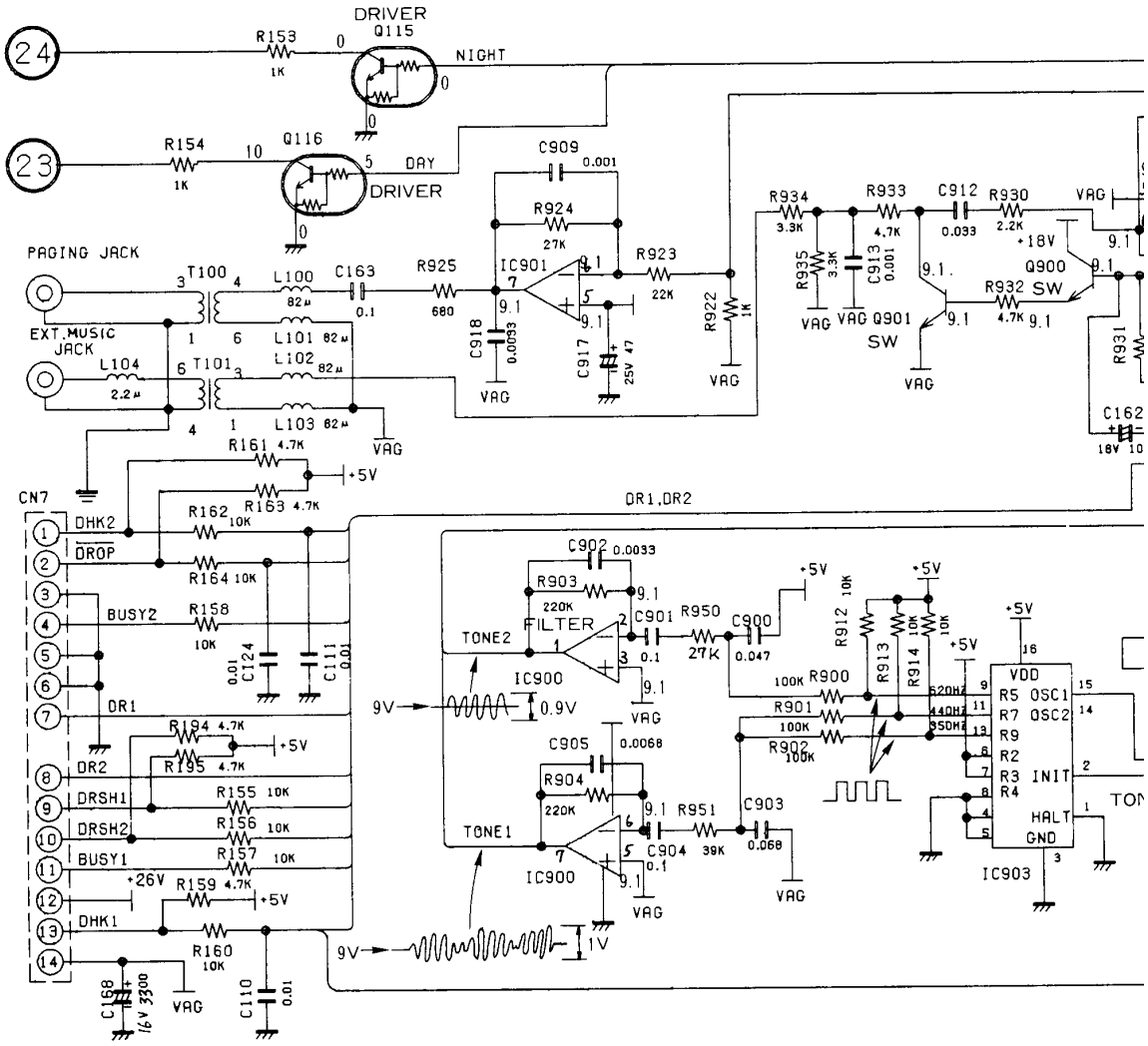



1
2
3
4
5
6
A
B
C
D
E
F
G
L200A
L201A
C200A
R200A
SR20A
SR21A
FG
C220A
0.0022
L202A
L203A
R201A
PC200A
SW
D203A
R210A
+5V
C212A
120P
+12V
C201A
50V22
R203A
D204A
SW
R229A
300K
+18V
C211A
0.056
R227A
F100K
SW
IC201A
ANALOG
SW
IC200A
AMP
C210A
0.056
R228A
F100K
R224A
470
R226A
1.2K
R222A
1.2K
C209A
0.018
R223A
SR22A
D200A
RECTIFIER
Q200A
R204A
5.6
ZNR20A
R206A
10K
50V22
Q201A
R202A
100K
R203A
4.7K
R207A
4.7K
R208A
39
PC201A
C202A
D201A
ZENER
PC202A
C203A
PROTECTOR
R212A
1.2K
D206A
D205A
R213A
1.5K
R216A
F100K
C205A
0.056
R217A
F100K
C206
0.056
R214
470
R215A
1.2K
C204A
0.033
VRG
R219A
300K
R220A
300K
R218A
300K
C207A
120P
IC200A
AMP
R221A
1.2K
VR
IC201A
A
18
Q202A
SW
R231A
47K
+16V
C250A
25V 1000
+18
IC201A
ANALOG
SW
C240A
0.022
C01
A
C02
B
C03
C
24
R153
1K
DRIVER
Q115
NIGHT

SCHEMATIC DIAGRAM




13
14
15
16
17
18
19
T,R
EXT
OL
FG
DATA
CS
B20HZ
BRK
IC125~IC130
CROSS POINT SWITCH
PROTECTOR
DTMF RECEIVER
IC114
IC115
IC118(1/2)
IC125
IC126
IC127
IC128
IC129
IC130
R500
R501
R502
C500
C501
C502
C503
C504
C511
C512
C513
R511
R512
R513
C130
R151
R152
R150
C123
C122
R143
C135
D111
D108
D109
R144
R145
C126
C148
C149
C125
R134
R133
C112
C113
X100
TONE 1
TONE 2
BGM
INT.P
VAG
+5V
+18V
+26V
20HZ
BRK
STD1
STD2
STBY
MR
RD
WR
A0
D0
D7



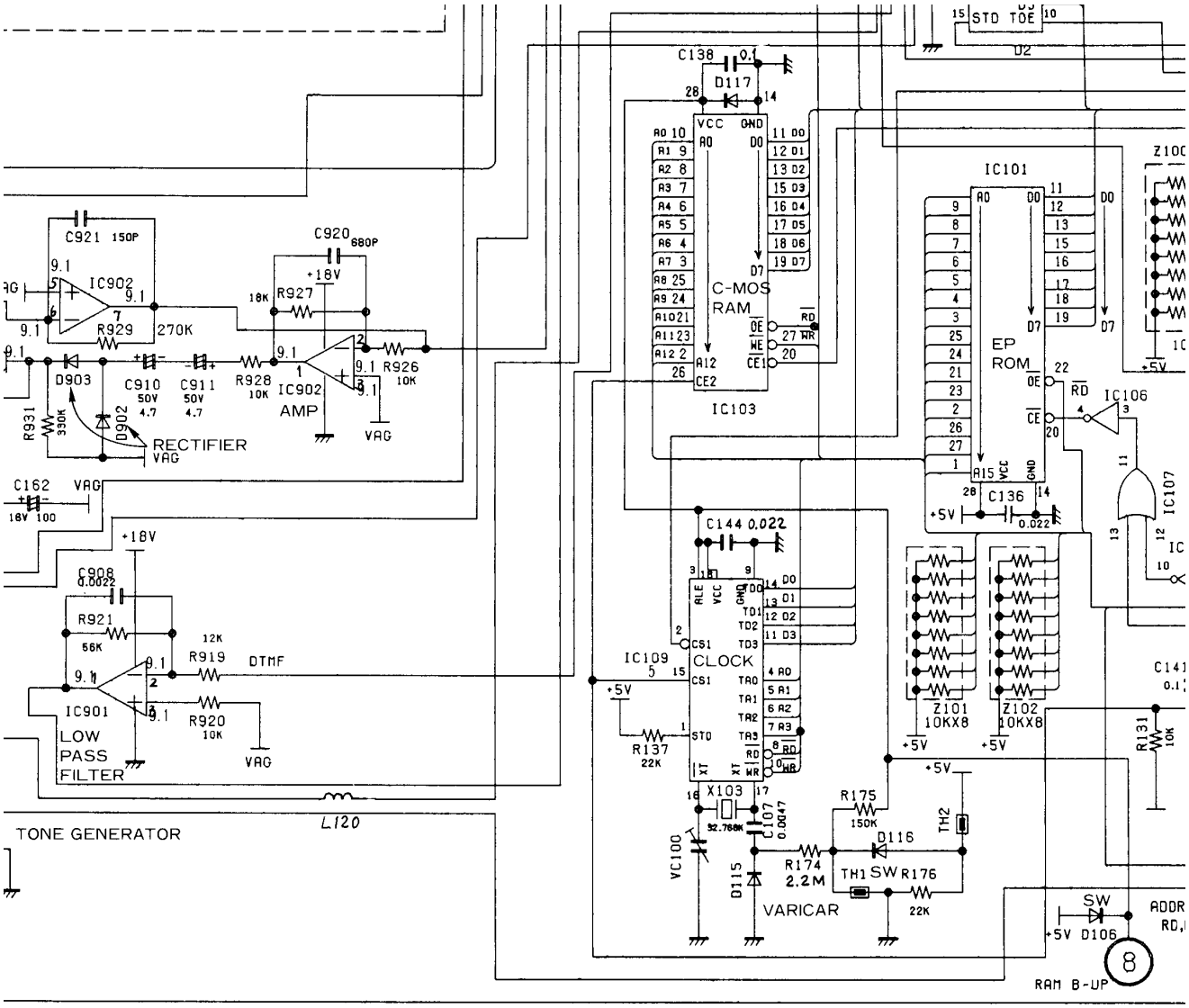
Notes:

1. SW1: Power switch.
2. SW100: Reset switch.
3. SW101: System program switch in "PROGRAM" position.
4. DC voltage measurements are taken with electronic voltmeter and oscilloscope from ground line.

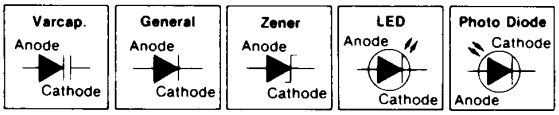
   (•Power Switch ON condition
   •Voltage Value: V)

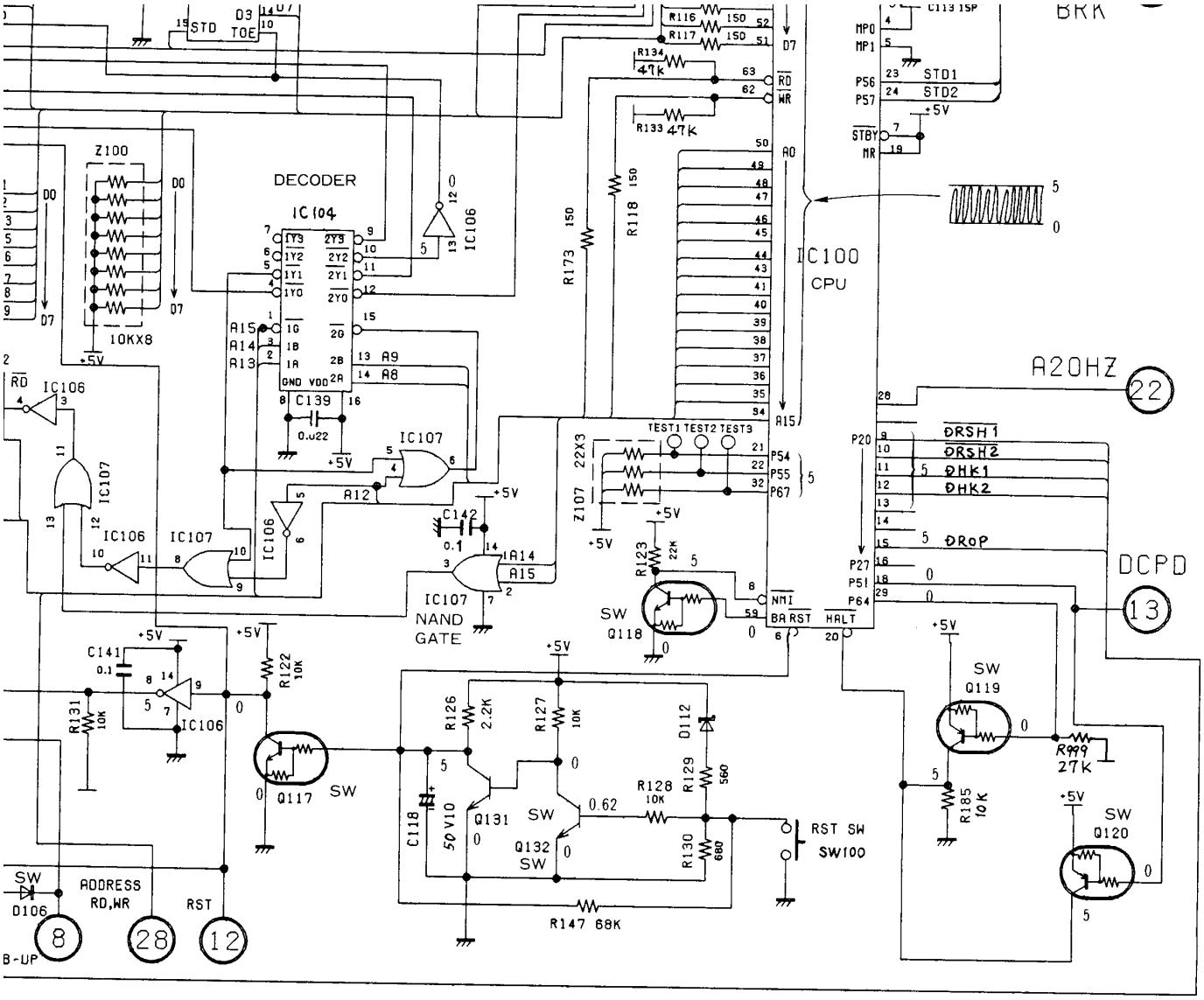
5. This schematic diagram may be modified at any time with the development of new technology.

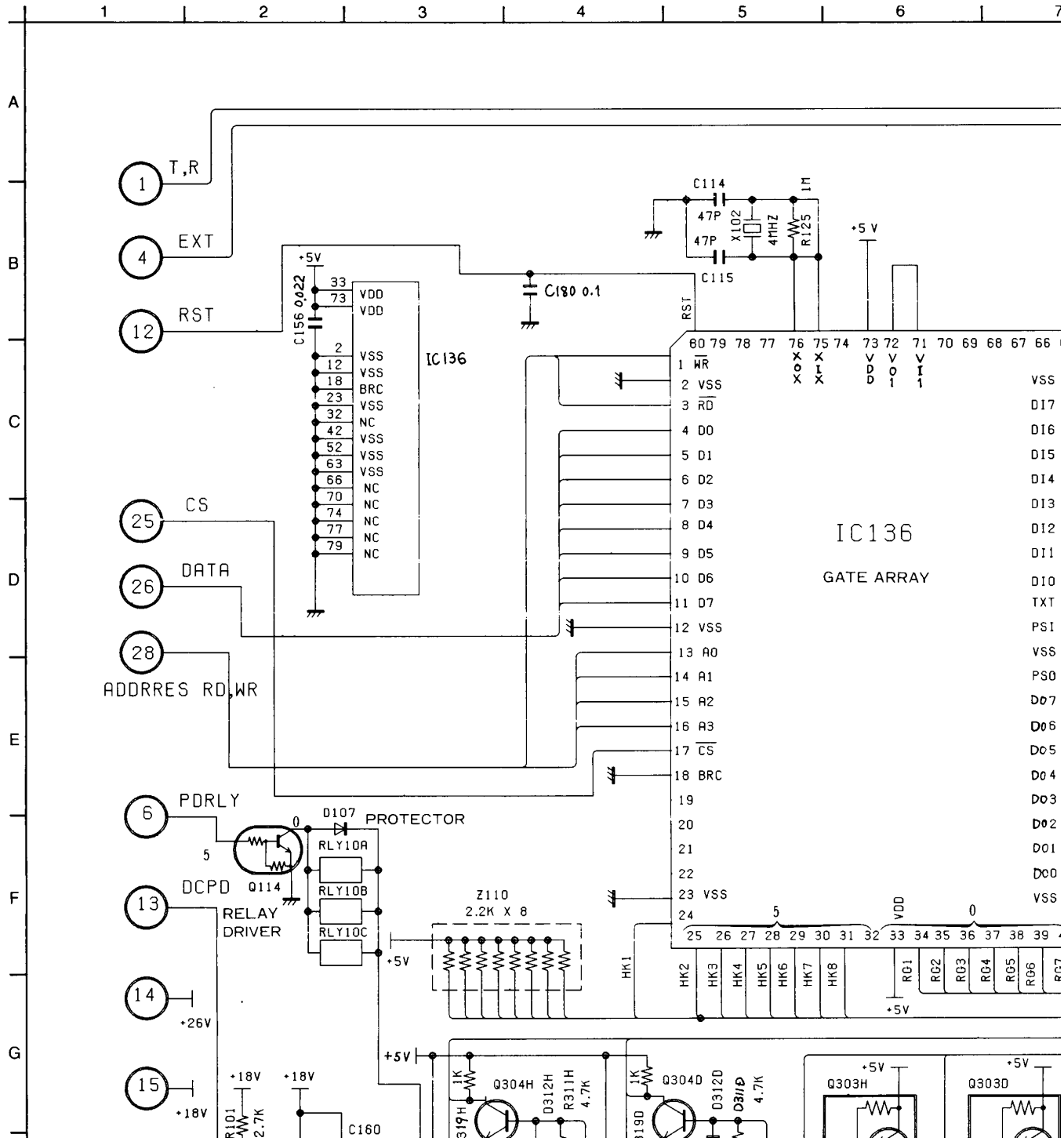
6. Important safety notice
   The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.


C921 150P
IC902
R929 270K
C920 680P
+18V
R927
R928 10K
IC902 AMP
R926 10K
D903
C910 50V 4.7
C911 50V 4.7
D902
R931 330K
RECTIFIER
VAG
C162 VAG
16V 100
C908 0.0022
R921 56K
R919 12K
DTMF
IC901
LOW PASS FILTER
R920 10K
TONE GENERATOR
L120
C138 0.1
D117
C-MOS RAM
IC103
IC101
EP ROM
IC106
IC107
C136 0.022
C144 0.022
IC109
CLOCK
R137 22K
X103 32.768K
C107 0.0047
VC100
D115
VARICAR
R174 2.2M
D116
TH1
SW
R176 22K
R175 150K
TH2
Z101 10KX8
Z102 10KX8
R131 10K
+5V
STD TOE
SW
+5V D106
ADDR
RD
8
RAM B-UP

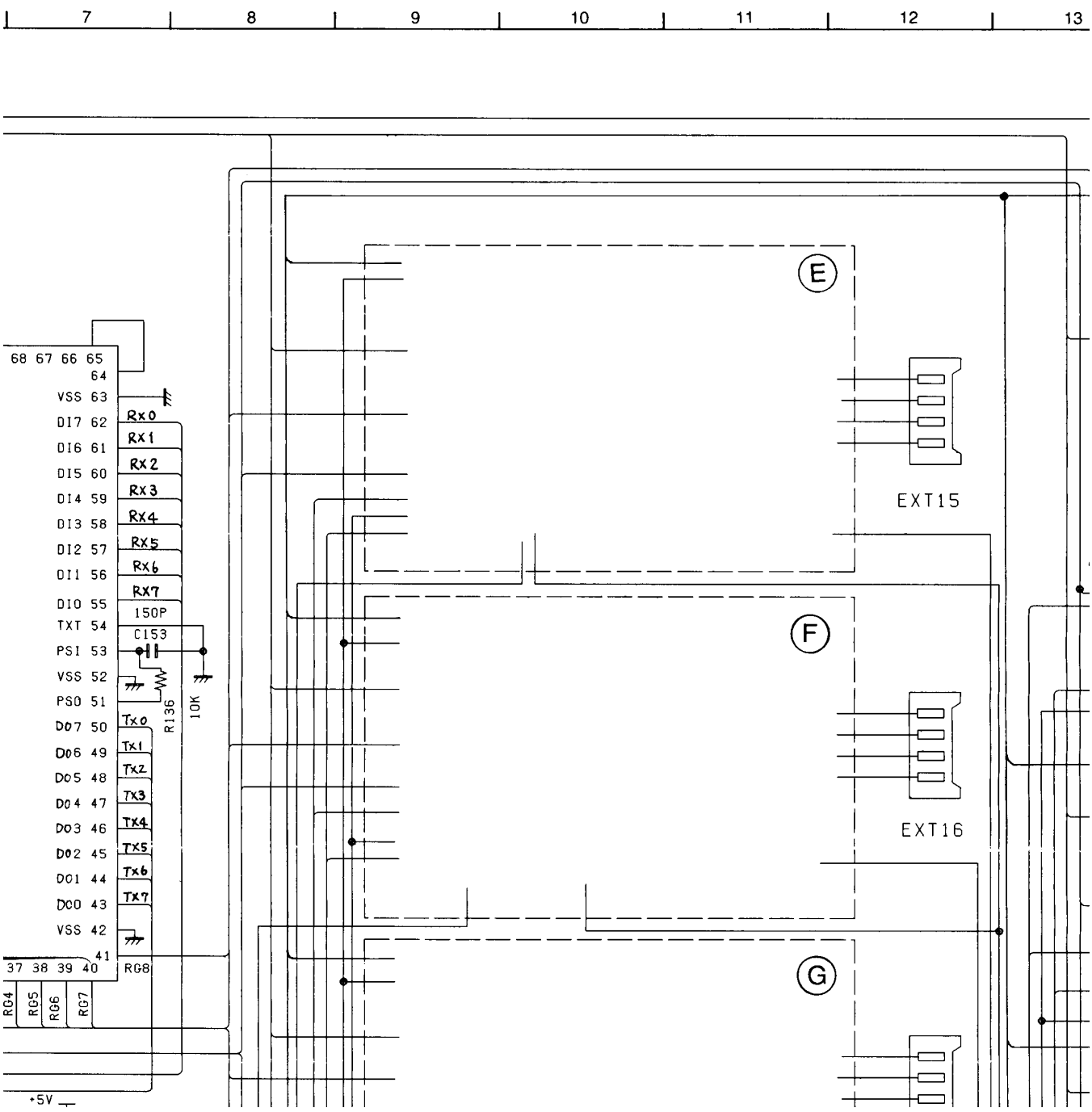
7.

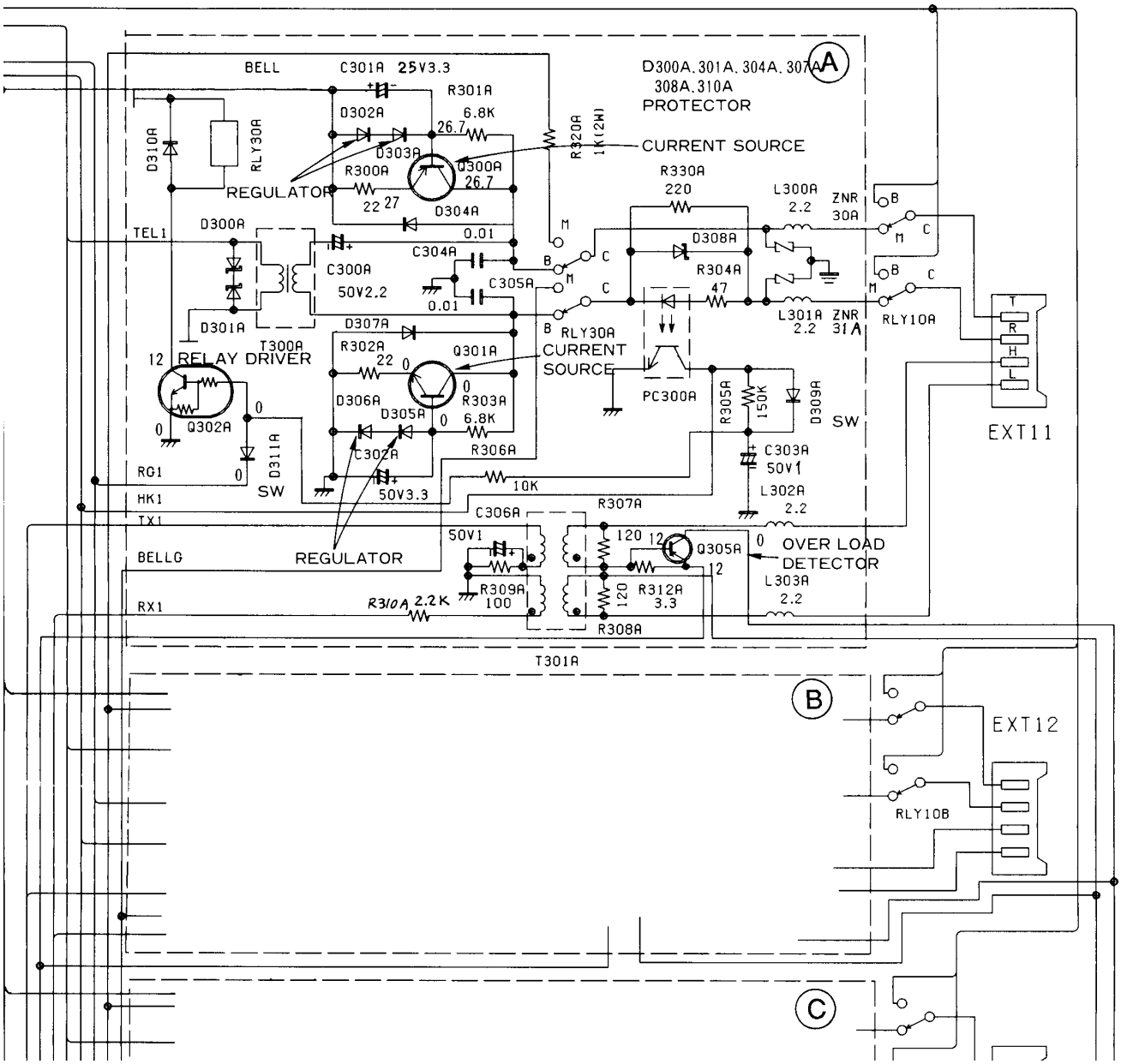

Varcap.
Anode
Cathode
General
Anode
Cathode
Zener
Anode
Cathode
LED
Anode
Cathode
Photo Diode
Cathode
Anode

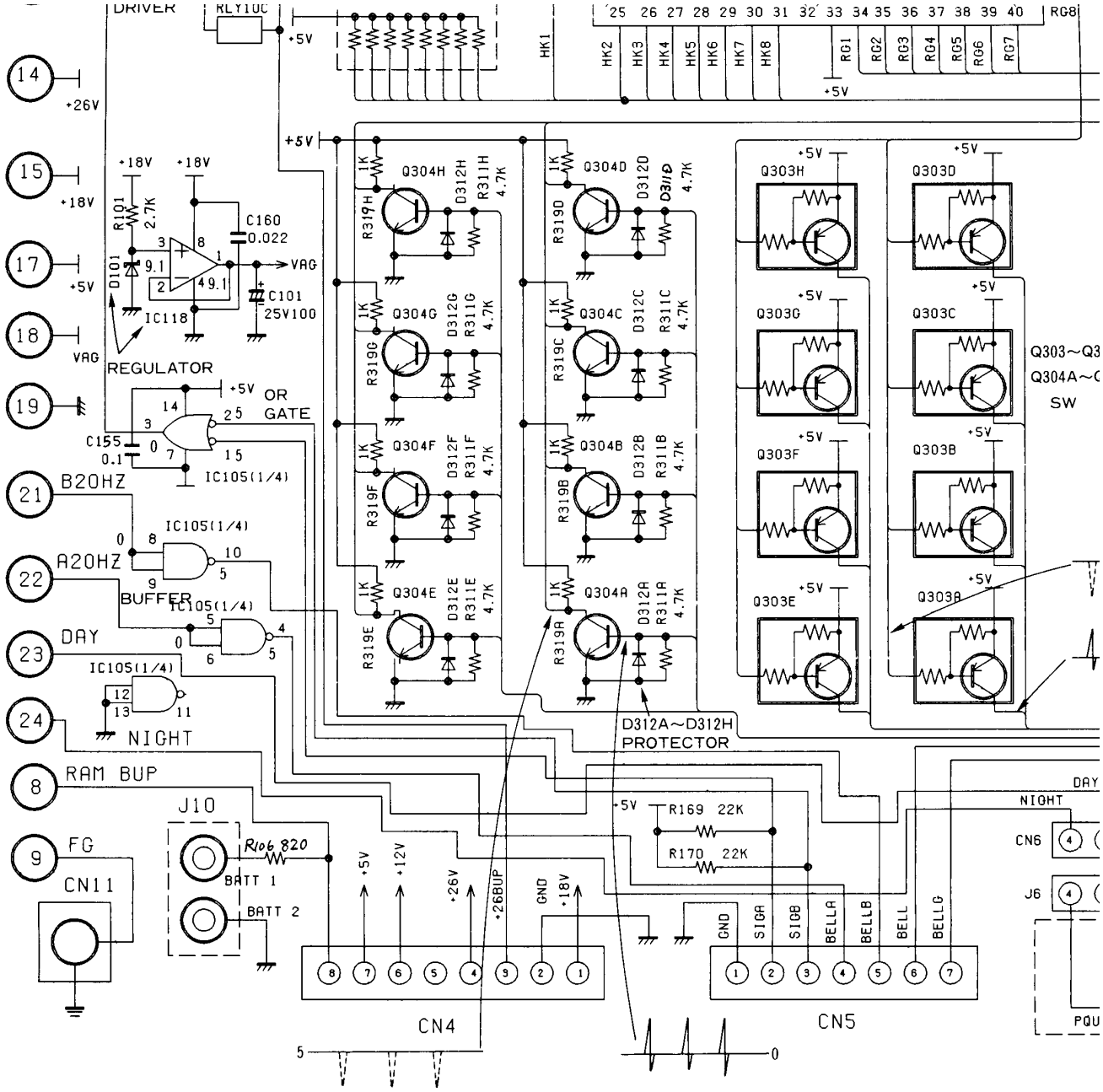

BRK
STD TOE
R116 150
R117 150
R134 47k
R133 47K
MP0
MP1
PS6 STD1
PS7 STD2
STBY MR
Z100
10KX8
DECODER
IC104
IC106
R173 150
R118 150
IC100
CPU
A20HZ
22
DRSH1
DRSH2
DHK1
DHK2
DROP
DCPD
13
IC107
NAND GATE
C139 0.022
C142 0.1
C141 0.1
R122 10K
R131 10K
R123 22K
Z107 22X3
TEST1 TEST2 TEST3
SW Q118
SW Q119
SW Q120
SW Q117
R126 2.2K
R127 10K
R128 10K
R129 560
R130 680
R147 68K
R185 10K
R999 27K
D112
C118 50V10
Q131
Q132
0.62
RST SW
SW100
SW D106
ADDRESS RD,WR
RST
8
28
12
B-UP

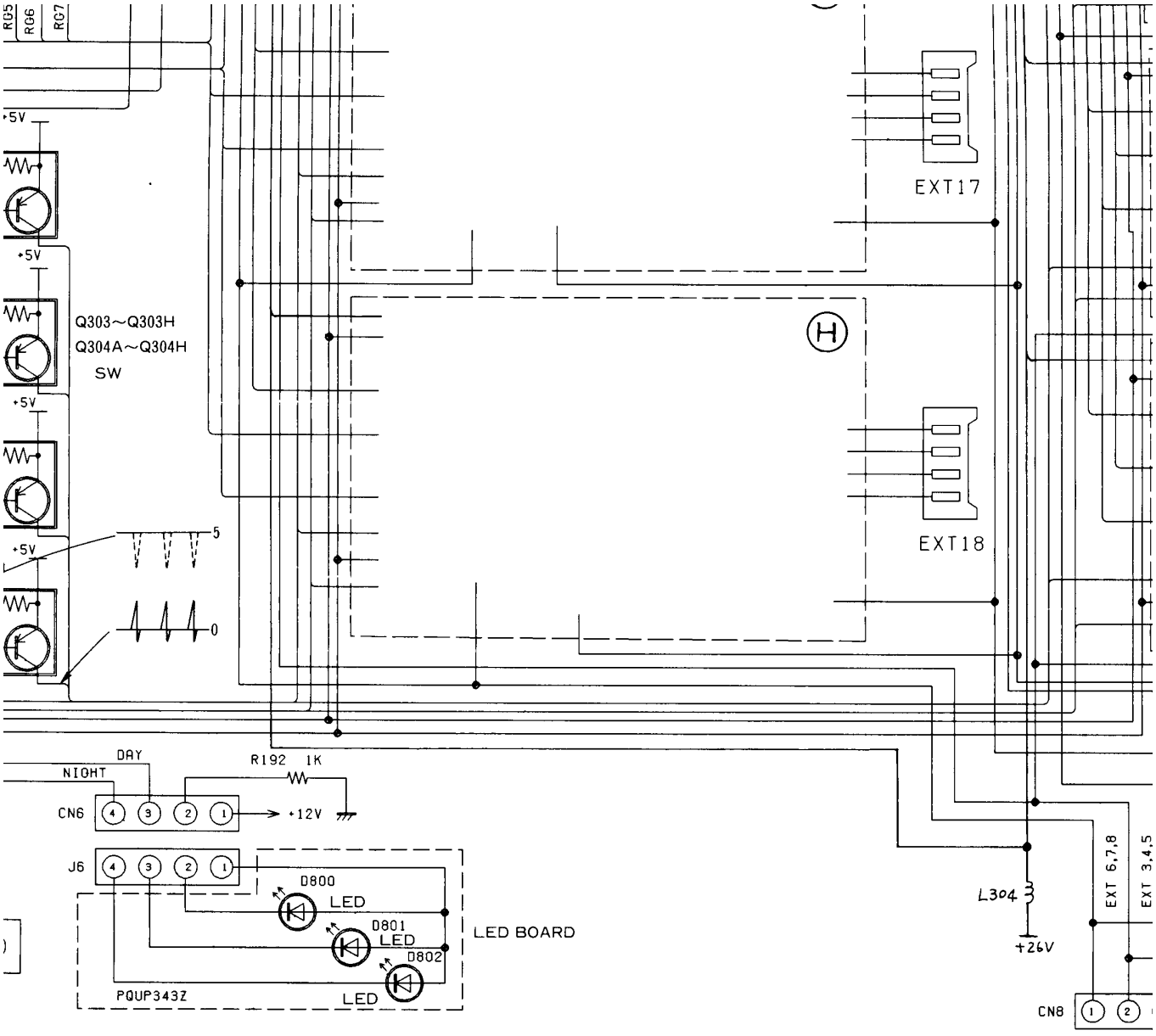

1
2
3
4
5
6
7
A
B
C
D
E
F
G
1 T,R
4 EXT
12 RST
25 CS
26 DATA
28 ADDRRES RD,WR
6 PDRLY
13 DCPD
RELAY DRIVER
14 +26V
15 +18V
+5V
C114 47P
47P
X102 4MHZ
R125 1M
C115
C180 0.1
C156 0.022
IC136
33 VDD
73 VDD
2 VSS
12 VSS
18 BRC
23 VSS
32 NC
42 VSS
52 VSS
63 VSS
66 NC
70 NC
74 NC
77 NC
79 NC
RSI
IC136
GATE ARRAY
1 WR
2 VSS
3 RD
4 D0
5 D1
6 D2
7 D3
8 D4
9 D5
10 D6
11 D7
12 VSS
13 A0
14 A1
15 A2
16 A3
17 CS
18 BRC
19
20
21
22
23 VSS
24
VSS
DI7
DI6
DI5
DI4
DI3
DI2
DI1
DI0
TXT
PSI
VSS
PS0
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DO0
VSS
D107 PROTECTOR
RLY10A
RLY10B
RLY10C
Q114
Z110 2.2K X 8
HK1
HK2
HK3
HK4
HK5
HK6
HK7
HK8
RG1
RG2
RG3
RG4
RG5
RG6
Q304H
Q304D
Q303H
Q303D
R101 2.7K
C160
+18V

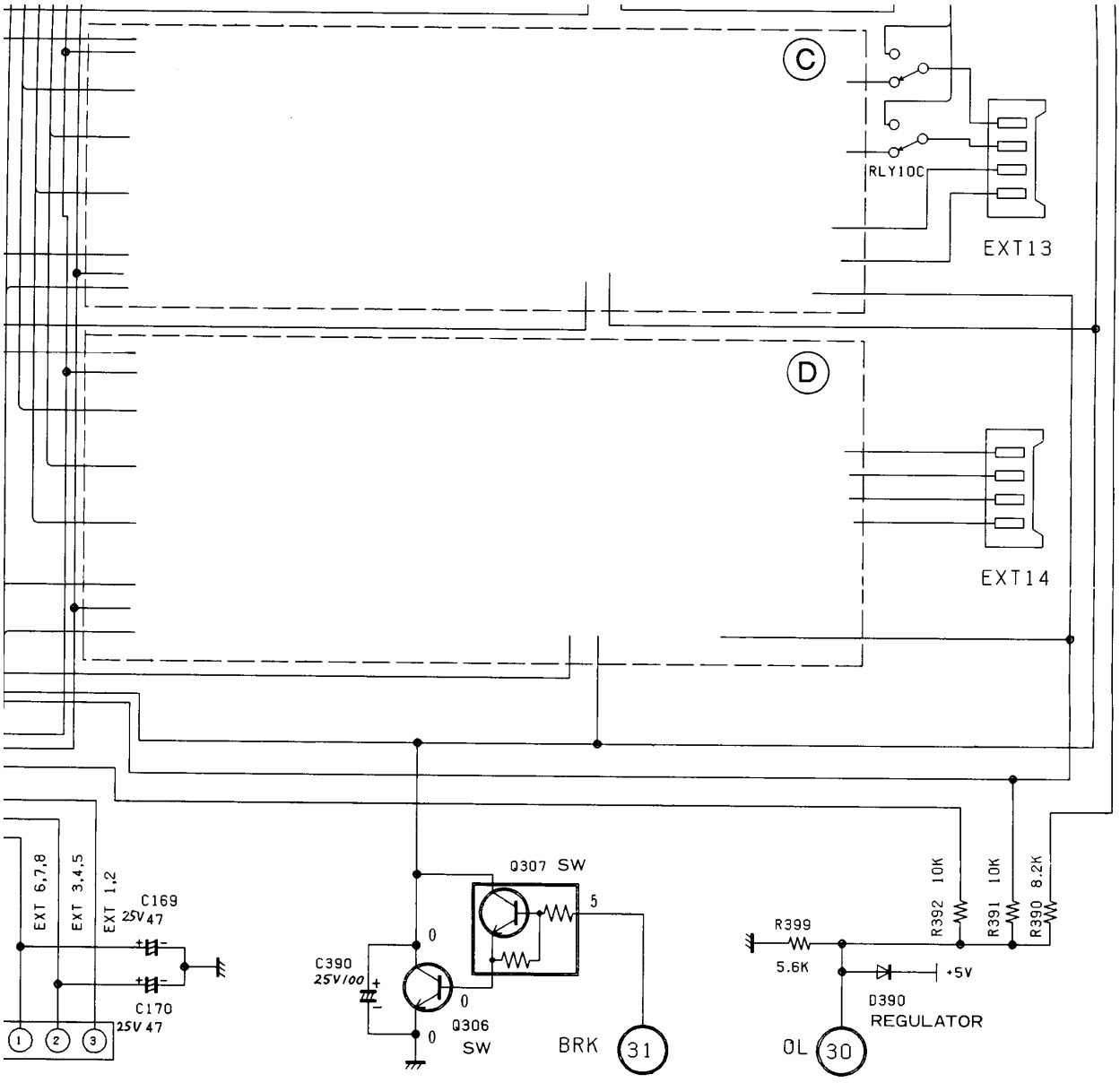
SCHEMATIC DIAGRAM



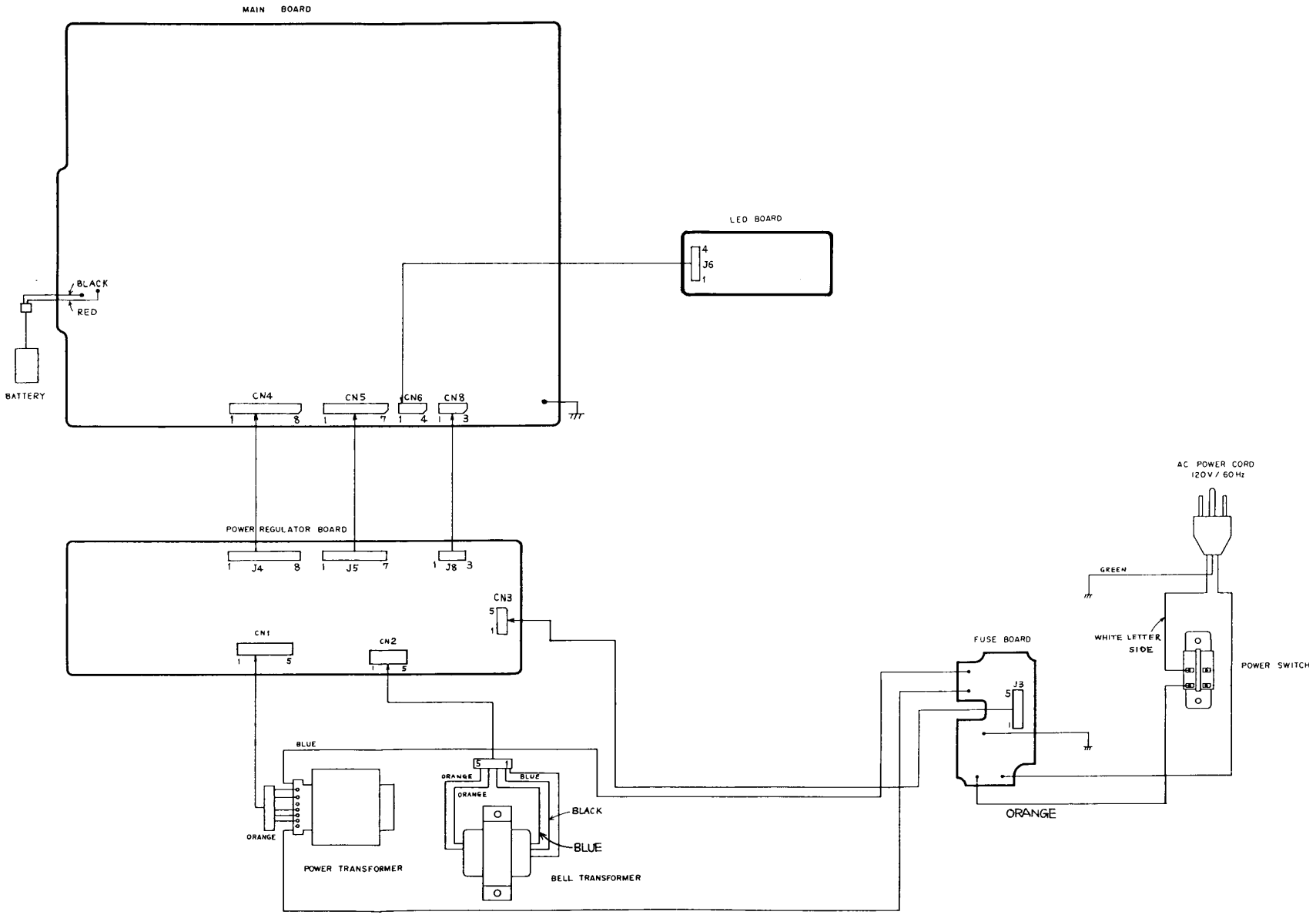

BELL
C301A 25V3.3
R301A
6.8K
D302A
D303A
26.7
R320A 1K(2W)
CURRENT SOURCE
D300A.301A.304A.307A
308A.310A
PROTECTOR
A
D310A
RLY30A
REGULATOR
R300A
22 27
Q300A
26.7
D304A
R330A
220
L300A
2.2
ZNR
30A
TEL1
D300A
C304A
0.01
D308A
C300A
50V2.2
C305A
0.01
R304A
47
L301A
2.2
ZNR
31A
RLY10A
D301A
T300A
D307A
R302A
22
Q301A
RLY30A
CURRENT
SOURCE
12
RELAY DRIVER
D306A
D305A
R303A
6.8K
PC300A
R305A
150K
D309A
SW
EXT11
Q302A
D311A
C302A
50V3.3
R306A
C303A
50V1
RG1
SW
10K
L302A
2.2
HK1
TX1
R307A
C306A
50V1
120
12
Q305A
OVER LOAD
DETECTOR
BELLG
REGULATOR
R309A
100
R310A 2.2K
120
R312A
3.3
L303A
2.2
RX1
R308A
T301A
B
EXT12
RLY10B
C


DRIVER
RLY10C
+5V
HK1
HK2
HK3
HK4
HK5
HK6
HK7
HK8
RG1
RG2
RG3
RG4
RG5
RG6
RG7
RG8
14
+26V
15
+18V
17
+5V
18
VAG
19
21
B20HZ
22
A20HZ
BUFFER
23
DAY
24
NIGHT
8
RAM BUP
9
FG
CN11
J10
R106 820
BATT 1
BATT 2
R101 2.7K
C160 0.022
C101 25V100
D101
IC118
REGULATOR
OR GATE
C155 0.1
IC105(1/4)
R319H
Q304H
D312H
R311H 4.7K
R319G
Q304G
D312G
R311G 4.7K
R319F
Q304F
D312F
R311F 4.7K
R319E
Q304E
D312E
R311E 4.7K
R319D
Q304D
D312D
R319C
Q304C
D312C
R311C 4.7K
R319B
Q304B
D312B
R311B 4.7K
R319A
Q304A
D312A
R311A 4.7K
Q303H
Q303G
Q303F
Q303E
Q303D
Q303C
Q303B
Q303A
Q303~Q3
Q304A~C
SW
D312A~D312H
PROTECTOR
R169 22K
R170 22K
DAY
NIGHT
CN6
J6
PQU
CN4
CN5
GND
SIGA
SIGB
BELLA
BELLB
BELL
BELLG


RG5
RG6
RG7
+5V
+5V
+5V
+5V
Q303~Q303H
Q304A~Q304H
SW
5
0
EXT17
EXT18
H
DAY
NIGHT
R192 1K
CN6
+12V
J6
D800
LED
D801
LED
D802
LED
LED BOARD
PQUP343Z
L304
+26V
EXT 6,7,8
EXT 3,4,5
CN8

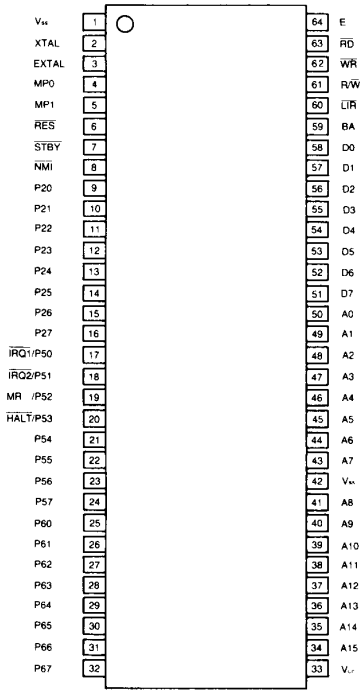

C
RLY10C
EXT13
D
EXT14
EXT 6,7,8
EXT 3,4,5
EXT 1,2
C169
25V47
C170
25V47
1
2
3
Q307 SW
5
0
C390
25V100
0
Q306
SW
0
BRK
31
R399
5.6K
R392 10K
R391 10K
R390 8.2K
+5V
D390
REGULATOR
OL
30

WIRING CONNECTION DIAGRAM

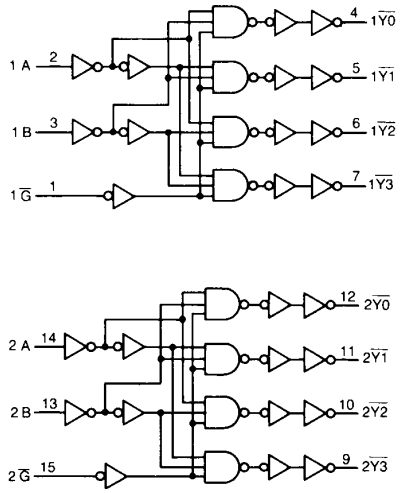


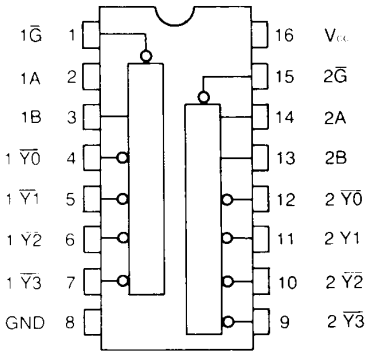
IC BLOCK DIAGRAM

IC100 PQVIH63B03XP

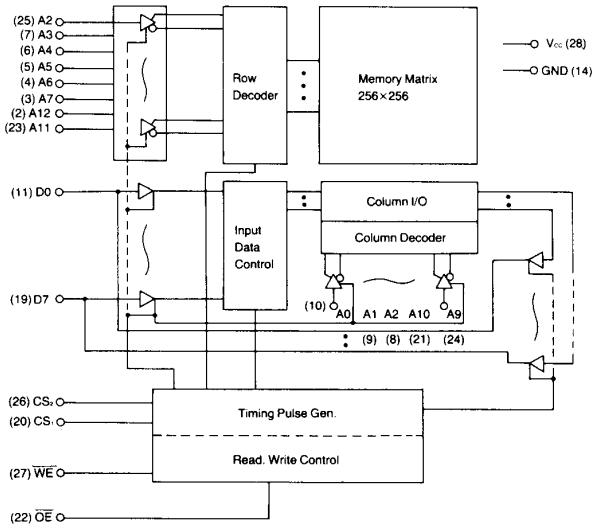


IC104 PQVITC7H139P

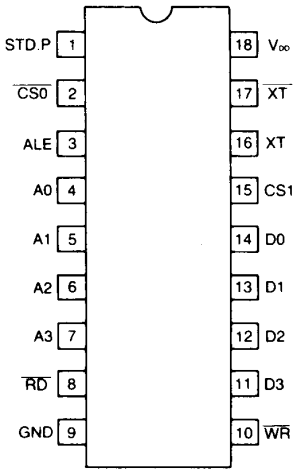




IC103 PQVIHM6264LA



IC109 PQVIMS6242BS



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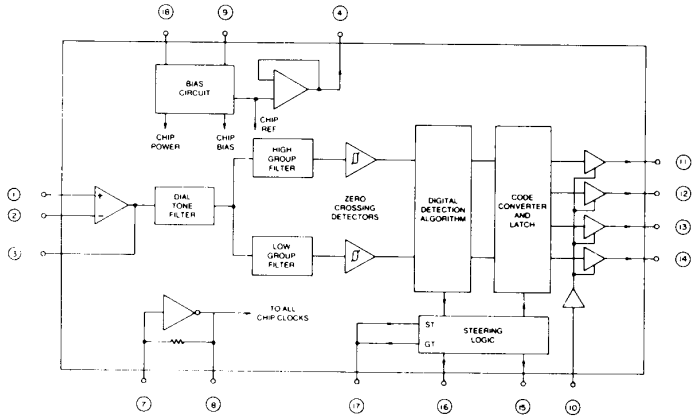
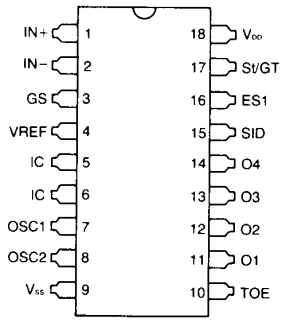
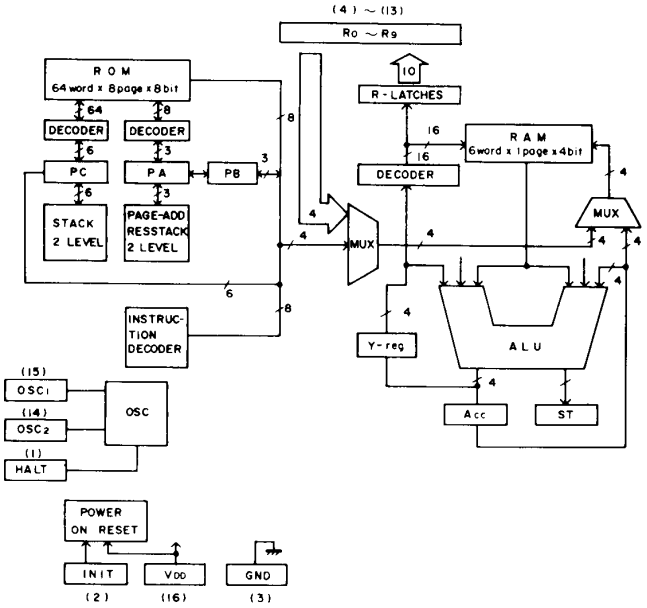
IC114, 115 PQVIMT8870BC

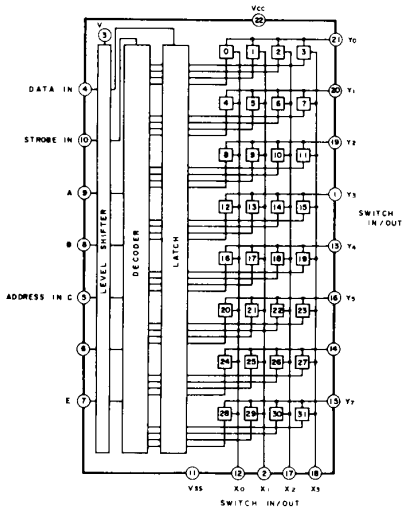




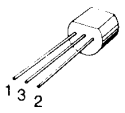
IC903 PQVIBU3140



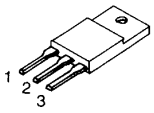
IC125~130 PQVIM402101P



TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES



AN78L18



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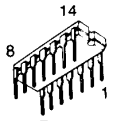

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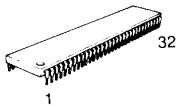
PQVINJM4011BC
PQVIPD4066UC



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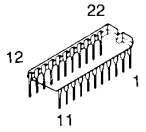

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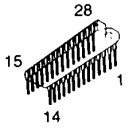

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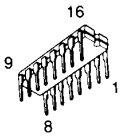

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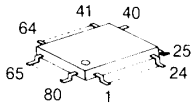

PQVI671152F
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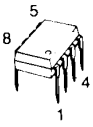
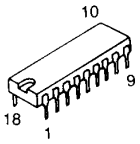


PQVINJM4558D



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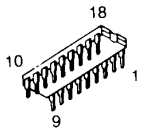
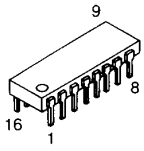


PQVIMT8870BC



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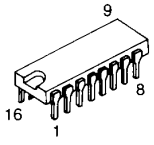
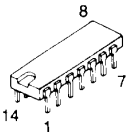


PQVIBU3140



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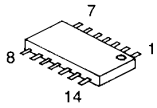

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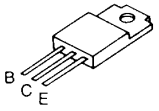

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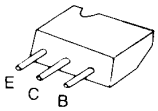
2SD1406



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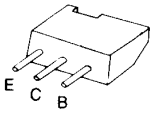
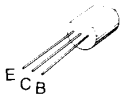
2SD637
2SD639



DTA124XA
DTA143A
DTC143XA
DTC144A
2SA937
2SC2021
PQVTDTC114Y



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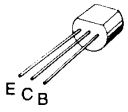
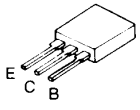
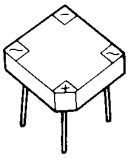


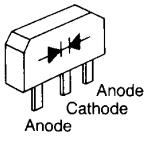
2SC2878



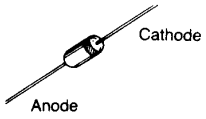
2SA1626



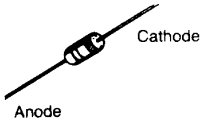
PQVD2B4B41



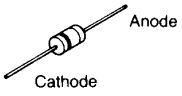
PQVDMI151



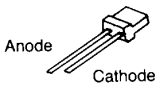
1SS131
1SV124
1SR35-200
MA4030
PQVDHZS2B1



MA4039
MA4047
MA4051
MA4062
MA4091
PQVDHZ7A2



MA4200



LN220RPH
LN320GPH
LN420YPH

EXPLODED VIEW

Ref. No.	Part No.
A	XTW3+S10M
B	XTB3+12CFN
C	XTW3+S16M
D	XYN3+F10
E	XSS3+7FN
F	XYN4+F8
G	XTN3+8C
H	XTW3+8L
I	XYN4+C6
J	XSN4D8FN
K	XTW3+6L
L	XYN4+F6
M	XWC4B
N	XWC3B

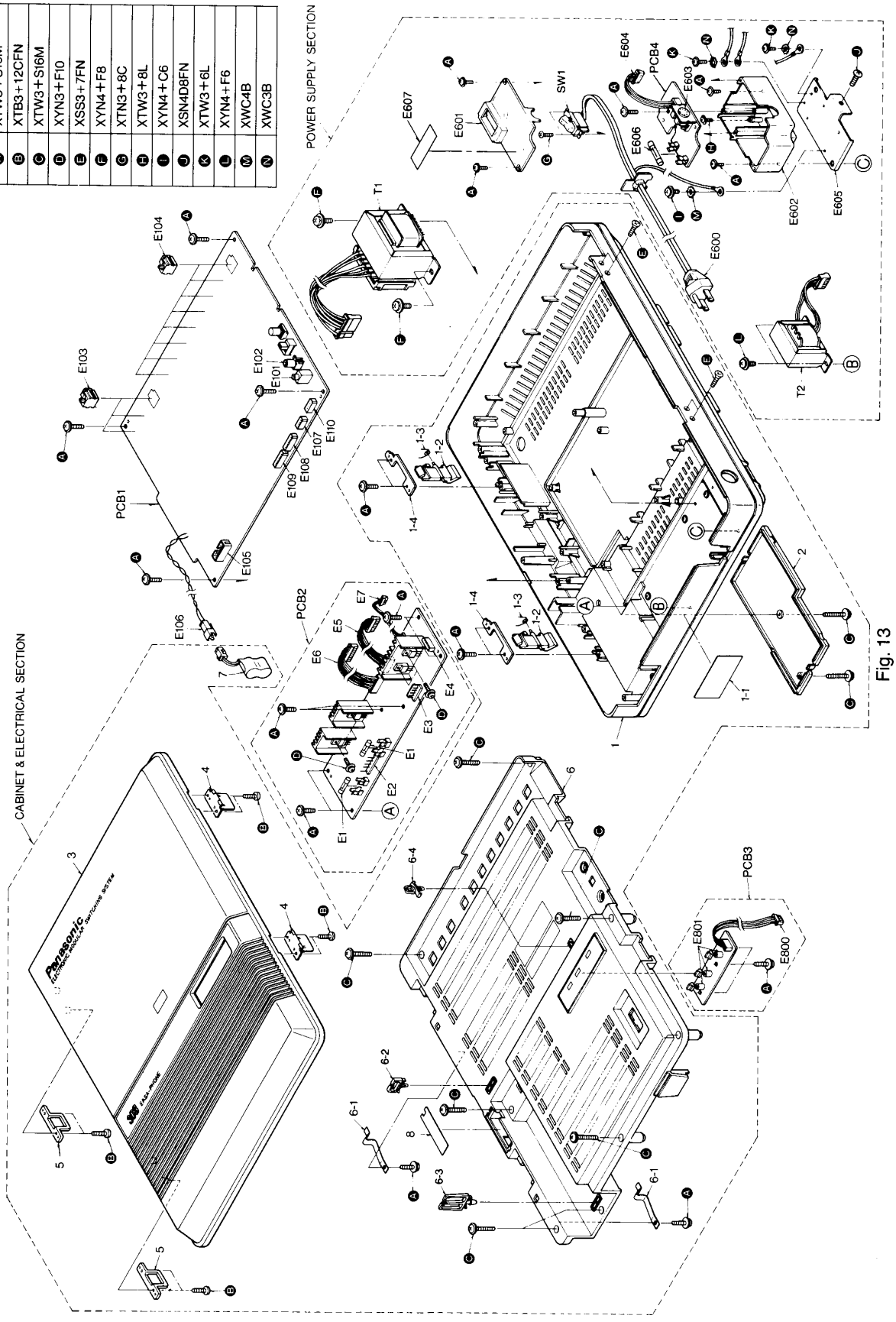
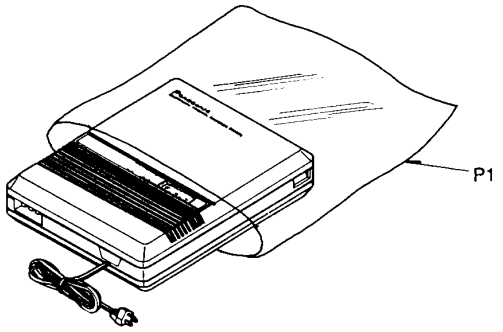


Fig. 13

ACCESSORIES & PACKING MATERIALS



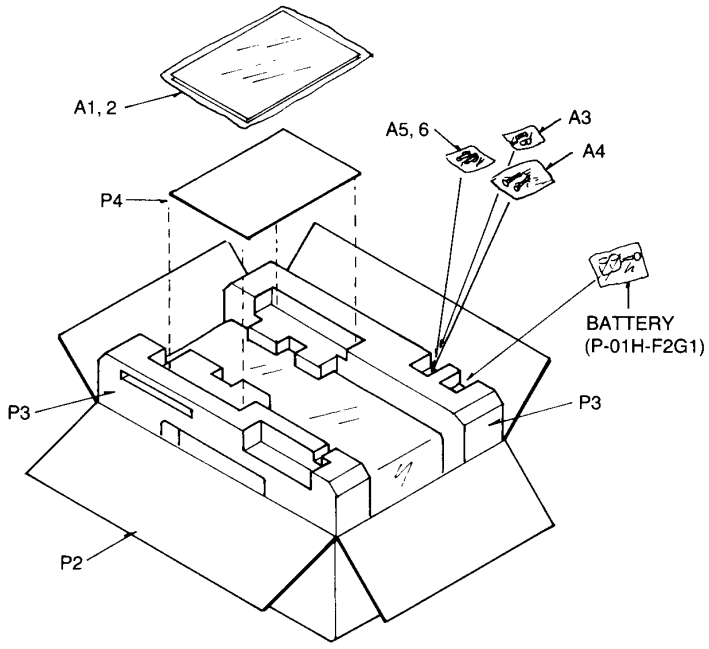
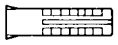


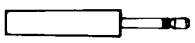
Fig. 15

A3
PQHE10Z

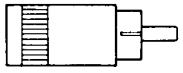


A4
PQHE5008Z

A5
PQJP1E1Z



A6
PQJP1E2Z



KX-T30810-1

REPLACEMENT PARTS LIST

Notes: Model KX-T30810-1

1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=l000Ω,M=l000kΩ
   All capacitors are in MICRO FARADS(μF) P= 0.001μF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC, : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polyproplylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
		CABINET & ELECTRICAL PARTS	
1	PQYMT30810M1	Rear Cabinet Assembly	1
1-1	PQGT373Z	Name Plate	1
1-2	PQHR9120Z8	Hook	2
1-3	PQUS91Z	Spring, Hook	2
1-4	PQUL51Z	Bracket, Hook	2
2	PQKE31Z8	Cabinet Door	1
3	PQYF1T30810M	Front Cabinet Assembly	1
4	PQBH2Z	Hinge-A	2
5	PQHR9121Z8	Hinge-B	2
6	PQYF230810M1	Inside Cover Assembly	1
6-1	PQUS102Z	Leaf Spring	2
6-2	PQHR118Z	Cord Holder-A	1
6-3	PQHR119Z	Cord Holder-B	1
6-4	PQHR120Z	Cord Holder-C	1
7	P-01H-F2G1	Battery	1
8	PQUV50Z	Battery Cover	1
		ACCESSORIES AND PACKING MATERIALS	
A1	PQQX5289Z	Installation Manual	1
A2	PQQX5291Z	User Guide	1
A3	PQHE10Z	Mounting Bracket (Curl Plug)	3
A4	PQHE5008Z	Mounting Bracket (Screw)	3
A5	PQJP1E1Z	Plug-A	1
A6	PQJP1E2Z	Plug-B	1
P1	XZB45X06A05	Protection Cover	1
P2	PQPK392Y	Packing Case	1
P3	PQPN9036Z	Cushion Complete (L,R Side)	1
P4	PQPN668Z	Cushion	1

Ref. No.	Part No.	Part Name & Description		Pcs
		MAIN BOARD PARTS		
PCB1	PQWP130810M1	Main P.C. Board Ass'y (NLA)		1
		(ICs)		
IC100	PQVIH63B03XP	IC		1
IC101	PQWIT30810M2	IC		1
IC102	Not Used			
IC103	PQVIHM6264LA	IC	S	1
IC104	PQVITC7H139P	IC	S	1
IC105	PQVIPD4011BC	IC	S	1
IC106	PQVITC7H04P	IC	S	1
IC107	PQVITC7H32P	IC	S	1
IC108	Not Used			
IC109	PQVIMS6242BS	IC		1
IC110-112	Not Used			
IC113	PQVI672191F	IC		1
IC114,115	PQVIMT8870BC	IC	S	2
IC116	PQVITP5089N	IC		1
IC117	Not Used			
IC118	PQVINJM4558D	IC	S	1
IC119-124	Not Used			
IC125-130	PQVIM402101P	IC		6
IC131-135	Not Used			
IC136	PQVI671152F	IC		1
IC200A,200B ,200C	PQVINJM4558D	IC	S	3
IC201A,201B ,201C	PQVIPD4066BC	IC	S	3
IC900,901 ,902	PQVINJM4558D	IC	S	3
IC903	PQVIBU3140	IC		1
		(TRANSISTORS)		
Q114,115 ,116	DTC143XA	Transistor (Si)		3
Q117,118	DTC144A	Transistor (Si)	S	2
Q119,120	DTA143A	Transistor (Si)	S	2
Q131,132	2SC2021	Transistor (Si)		2
Q200A,200B ,200C	2SA1626	Transistor (Si)	⚠	3
Q201A,201B ,201C	2SC2235	Transistor (Si)	⚠	3
Q202A,202B ,202C,203A ,203B,203C ,204A,204B ,204C,205A ,205B,205C	DTC144A	Transistor (Si)	S	12
Q210A,210B ,210C	DTA124XA	Transistor (Si)		3
Q300A-300H	2SB644	Transistor (Si)		8
Q301A-301H	2SD639	Transistor (Si)		8
Q302A-302H	PQVTDTC114Y	Transistor (Si)		8
Q303A-303H	DTA143A	Transistor (Si)	S	8
Q304A-304H	2SC2021	Transistor (Si)		8
Q305A-305H	2SA937	Transistor (Si)		8
Q306	2SD1406	Transistor (Si)		1
Q307	DTC144A	Transistor (Si)	S	1
Q900	2SC2021	Transistor (Si)		1
Q901	2SC2878	Transistor (Si)		1

Ref. No.	Part No.	Part Name & Description		Pcs
		(DIODES)		
D101	MA4091	Diode (Si)		1
D102-105	Not Used			
D106-109	1SS131	Diode (Si)		4
D110	Not Used			
D111	1SS131	Diode (Si)		1
D112	MA4039	Diode (Si)		1
D113,114	Not Used			
D115	1SV124	Diode (Si)		1
D116,117	1SS131	Diode (Si)		2
D200A,200B ,200C	PQVDS1YB40F1	Diode (Si)	⚠	3
D201A,201B ,201C	PQVDHZS2B1	Diode (Si)	⚠	3
D202A-202C	Not Used			
D203A,203B ,203C,204A ,204B,204C	1SS131	Diode (Si)		6
D205A,205B ,205C,206A ,206B,206C	MA4047	Diode (Si)		6
D207A-209C	Not Used			
D210A,210B ,210C	1SS131	Diode (Si)		3
D300A-300H ,301A-301H	MA4047	Diode (Si)		16
D302A-302H ,303A-303H ,304A-304H ,305A-305H ,306A-306H ,307A-307H	1SS131	Diode (Si)		48
D308A-308H	MA4030	Diode (Si)		8
D309A-309H ,310A-310H ,311A-311H ,312A-312H	1SS131	Diode (Si)		32
D390	1SS131	Diode (Si)		1
D902,903	1SS131	Diode (Si)		2
		(VARISTORS)		
ZNR20A,20B ,20C	ERZC07DK820	Varistor	⚠	3
ZNR30A-30H ,31A-31H	ERZC03DK241	Varistor		16
SA20A,20B ,20C,21A ,21B,21C ,22A,22B ,22C	PQVDSAE310F1	Surge Absorber	⚠	9
		(CRYSTAL OSCILLATORS)		
X100	PQVCK6000N3Z	Crystal Oscillator		1
X101	PQCVX3579H5R	Crystal Oscillator	S	1
X102	PQVCX4000N8Z	Crystal Oscillator	S	1
X103	PQVCL3276N4Z	Crystal Oscillator		1
		(COMPONENT COMBINATIONS)		
Z100,101 ,102	EXBP88473K	Resistor Array	S	3
Z107	PQRS8B3223J	Resistor Array		1
Z110	EXBP88222K	Resistor Array	S	1

Ref. No.	Part No.	Part Name & Description		Pcs
		(COILS)		
L100-103	ELEPK820KA	Choke Coil	S	4
L104	PQLQZM2R2M	Choke Coil	S	1
L105-109	Not Used			
L110,111 ,120 ,300B-300H ,301A-301H ,302A-302H ,303A-303H	PQLQZM2R2M	Choke Coil	S	35
L200A,200B ,200C,202A ,202B,202C	PQLQZK101K	Choke Coil	⚠	6
L201A,201B ,201C,203A ,203B,203C	PQLQZK2R2K	Choke Coil	⚠	6
L304	ELEA100KA	Choke Coil		1
		(TRANSFORMERS)		
T100,101	PQLT2D6B	Interface Transformer		2
T200A,200B ,200C ,300A-300H	ETA14Y85AY	Interface Transformer	⚠	11
T301A-301H	ETE13K38AY	Pulse Transformer		8
		(SWITCHES)		
SW100	PQSH1A12Z	Switch, Reset		1
SW101	PQSS2A20Z	Switch, System Program		1
		(RELAYS)		
RLY10A,10B ,10C	PQSL49Z	Relay		3
RLY30A-30H	PQSL41Z	Relay		8
		(VARIABLE CAPACITOR)		
VC100	PQCVTZB30B	Trimmer		1
		(THERMISTORS)		
TH1	PQRRTS104U	Thermistor		1
TH2	PQRRTS203U	Thermistor		1
		(PHOTO ELECTIC TRANSDUCERS)		
PC200A ,200B,200C	PQVITLP520	Photo Coupler	⚠	3
PC201A ,201B,201C	PQVITLP627	Photo Coupler	⚠	3
PC202A ,202B,202C ,300A-300H	PQVITLP521	Photo Coupler	⚠ S	11
		(RESISTORS)		
C101	ECEA1EU101	100		1
C102-106	Not Used			
C107	ECQM1H472JV	0.0047		1
C108,109	Not Used			
C110,111	ECKD1H103KB	0.01	S	2
C112,113	ECCD1H150JC	15P	S	2
C114,115	ECCD1H470JC	47P		2
C116,117	Not Used			
C118	ECEA1HU100	10		1
C119,120	Not Used			
C121	ECKD1H223MD	0.022	S	1
C122,123	ECQV1H104JZ	0.1		2

Ref. No.	Part No.	Part Name & Description		Pcs
C124	ECKD1H103KB	0.01	S	1
C125,126 ,127	ECQV1H104JZ	0.1		3
C128-129	Not Used			
C130	ECKD1H102JA	0.001	S	1
C131-134	Not Used			
C135,136	ECKD1H223MD	0.022	S	2
C138	ECQV1H104JZ	0.1		1
C139	ECKD1H223MD	0.022	S	1
C140	Not Used			
C141,142	ECQV1H104JZ	0.1		2
C143	Not Used			
C144	ECKD1H223MD	0.022	S	1
C145-147	Not Used			
C148,149	ECKD1H223MD	0.022	S	2
C149	Not Used			
C150	ECQV1H104JZ	0.1		1
C151,152	Not Used			
C153	ECCD1H151JC	150P	S	1
C154	Not Used			
C155	ECQV1H104JZ	0.1		1
C156	ECKD1H223MD	0.022	S	1
C157-159	Not Used			
C160	ECKD1H223MD	0.022	S	1
C161	ECQV1H104JZ	0.1		1
C162	ECEA1EU101	100	S	1
C163	ECQV1H104JZ	0.1		1
C164-167	Not Used			
C168	ECEA1CSS332	3300		1
C169,170	ECEA1EU470	47		2
C171-179	Not Used			
C180	ECQV1H104JZ	0.1		1
C190	ECEA1HU2R2	2.2		1
C200A,200B ,200C	ECQE2E474KZ	0.47	⚠	3 1
C201A,201B ,201C	ECEA1HU220	22		3
C202A,202B ,202C	ECEA1HU100	10	⚠	3
C203A,203B ,203C	ECEA1HU220	22	⚠	3
C204A,204B ,204C	ECQV1H333JZ	0.033		3
C205A,205B ,205C,206A ,206B,206C	ECQV1H563JZ	0.056		6
C207A,207B ,207C	ECCD1H121KC	120P		3
C208A,208B ,208C,209A ,209B,209C	ECQM1H183JV	0.018		6
C210A,210B ,210C,211A ,211B,211C	ECQV1H563JZ	0.056		6
C212A,212B ,212C	ECCD1H121KC	120P		3
C220A,220B ,220C	ECKDKC222KB	0.0022	⚠	3
C221A,221B ,221C	ECKD1H102JA	0.001	S	3
C240A,240B ,240C	ECKD1H223MD	0.022	S	3
C250	ECEA1EU102	1000		1
C300A-300G	ECEA1HU2R2	2.2		7
C300H	ECEA1HKS2R2	2.2		1
C301A-301H ,302A-302H	ECEA1HU3R3	3.3	S	16
C303A-303H	ECEA1HU010	1		8
C304A-304H ,305A-305H	ECKD1H103KB	0.01	S	16

Ref. No.	Part No.	Value		Pcs
C306A-306H	ECEA1HU010	1		8
C390	ECEA1EU101	100		1
C500-504	ECKD1H223MD	0.022	S	5
C511,512 ,513	ECQV1H273JZ	0.027		3
C900	ECQV1H473JZ	0.047		1
C901	ECQV1H104JZ	0.1		1
C902	ECQM1H332JV	0.0033		1
C903	ECQV1H683JZ	0.068		1
C904	ECQV1H104JZ	0.1		1
C905	ECQM1H682JV	0.0068		1
C906,907	Not Used			
C908	ECQM1H222JV	0.0022		1
C909	ECKD1H102JA	0.001	S	1
C910,911	ECEA1HU4R7	4.7		2
C912	ECQV1H333JZ	0.033		1
C913	ECKD1H102JA	0.001	S	1
C914-916	Not Used			
C917	ECEA1EU470	47		1
C918	ECQM1H332JV	0.0033		1
C919	Not Used			
C920	ECCD1H681KB	680P		1
C921	ECCD1H151JC	150P	S	1
		(RESISTORS)		
R101	ERD16TJ272	2.7k		1
R102-105	Not Used			
R106	ERD16TJ821	820		1
R107-109	Not Used			
R110-118	ERD16TJ151	150		9
R119-121	Not Used			
R122	ERD16TJ103	10k		1
R123	ERD16TJ223	22k		1
R124	Not Used			
R125	ERD16TJ105	1M		1
R126	ERD16TJ222	2.2k		1
R127,128	ERD16TJ103	10k		2
R129	ERD16TJ561	560		1
R130	ERD16TJ681	680		1
R131	ERD16TJ103	10k		1
R132	Not Used			
R133,134	ERD16TJ473	47k		2
R135	Not Used			
R136	ERD16TJ103	10k		1
R137	ERD16TJ223	22k		1
R138,139	Not Used			
R140	ERD16TJ104	100k		1
R141	ERD16TJ333	33k		1
R142	ERD16TJ334	330k		1
R143	ERD16TJ104	100k		1
R144	ERD16TJ333	33k		1
R145	ERD16TJ334	330k		1
R146	ERD16TJ472	4.7k		1
R147	ERD16TJ683	68k		1
R148,149	Not Used			
R150	ERD16TJ102	1k		1
R151	ERD16TJ333	33k		1
R152	ERD16TJ223	22k		1
R153,154	ERD16TJ102	1k		2
R155-158	ERD16TJ103	10k		4
R159	ERD16TJ472	4.7k		1
R160	ERD16TJ103	10k		1
R161	ERD16TJ472	4.7k		1
R162	ERD16TJ103	10k		1
R163	ERD16TJ472	4.7k		1
R164	ERD16TJ103	10k		1
R165-168	Not Used			
R169,170	ERD16TJ223	22k		2
R171,172	Not Used			

Ref. No.	Part No.	Part Name & Description	Pcs
R173	ERD16TJ151	150	1
R174	ERD16TJ225	2.2M	1
R175	ERD16TJ154	150k	1
R176	ERD16TJ223	22k	1
R177-184	Not Used		
R185	ERD16TJ103	10k	1
R186-189	Not Used		
R190,191	ERD16TJ103	10k	2
R192	ERD16TJ102	1k	1
R193	Not Used		
R194,195	ERD16TJ472	4.7k	2
R200A,200B ,200C	PQRD12TJ223	22k ⚠ S	3
R201A,201B ,201C	ERD16TJ122	1.2k ⚠	3
R202A,202B ,202C	ERD16TJ104	100k ⚠	3
R203A,203B ,203C	ERD16TJ472	4.7k ⚠	3
R204A,204B ,204C	ERD16TJ5R6	5.6 ⚠	3
R205A-205C	Not Used		
R206A,206B ,206C	ERD16TJ103	10k ⚠	3
R207A,207B ,207C	ERD16TJ472	4.7k ⚠	3
R208A,208B ,208C	ERD25TJ390	39 ⚠ S	3
R209A,209B ,209C	ERD16TJ102	1k	3
R210A,210B ,210C	ERD16TJ103	10k	3
R211A,211B ,211C	ERD16TJ392	3.9k	3
R212A,212B ,212C	ERD16TJ122	1.2k	3
R213A,213B ,213C	ERD16TJ152	1.5k	3
R214A,214B ,214C	ERD16TJ471	470	3
R215A,215B ,215C	ERD16TJ122	1.2k	3
R216A,216B ,216C,217A ,217B,217C	ERO16CKF1003	100k	6
R218A,218B ,218C,219A ,219B,219C ,220A,220B ,220C	ERO16CKF3003	300k	9
R221A,221B ,221C,222A ,222B,222C ,223A,223B ,223C	ERD16TJ122	1.2k	9
R224A,224B ,224C,225A ,225B,225C	ERD16TJ471	470	6
R226A,226B ,226C	ERD16TJ122	1.2k	3
R227A,227B ,227C,228A ,228B,228C	ERO16CKF1003	100k	6
R229A,229B ,229C	ERO16CKF3003	300k	3
R230A-230C	Not Used		
R231A,231B ,231C,232A ,232B,232C	ERD16TJ473	47k	6

Ref. No.	Part No.	Part Name & Description	Pcs
R233A,233B ,233C,234A ,234B,234C	ERD16TJ473	47k	6
R235A,235B ,235C	ERD16TJ823	82k	3
R300A-300H	ERD16TJ220	22	8
R301A-301H	ERD16TJ682	6.8k	8
R302A-302H	ERD16TJ220	22	8
R303A-303H	ERD16TJ682	6.8k	8
R304A-304H	ERD16TJ470	47	8
R305A-305H	ERD16TJ154	150k	8
R306A-306H	ERD16TJ103	10k	8
R307A-307H	ERD16TJ121	120	8
R308A-308H	ERD16TJ121	120	8
R309A-309H	ERD16TJ101	100	8
R310A-310H	ERD16TJ222	2.2k	8
R311A-311H	ERD16TJ472	4.7k	8
R312A-312H	ERD16TJ3R3	3.3	8
R319A-319H	ERD16TJ102	1k	8
R320A-320H	PQRD2TJ102	1k	8
R330A-330H	ERD16TJ221	220	8
R390	ERD16TJ822	8.2K	1
R391,392	ERD16TJ103	10k	2
R399	ERD16TJ562	5.6k	1
R500,501 ,502	ERO16CKF1151	1.15k	3
R503-510	ERO16CKF49R9	49.9	8
R511,512 ,513	ERO16CKF6491	6.49k	3
R514-521	ERO16CKF1101	1.1k	8
R522,523	ERO16CKF1151	1.15k	2
R900,901 ,902	ERD16TJ104	100k	3
R903	ERD16TJ224	220k	1
R904	ERD16TJ124	120k	1
R905-911	Not Used		
R912,913 ,914	ERD16TJ103	10k	3
R915-918	Not Used		
R919	ERD16TJ123	12K	1
R920	ERD16TJ103	10k	1
R921	ERD16TJ563	56k	1
R922	ERD16TJ102	1k	1
R923	ERD16TJ223	22k	1
R924	ERD16TJ273	27k	1
R925	ERD16TJ681	680	1
R926	ERD16TJ103	10k	1
R927	ERD16TJ183	18k	1
R928	ERD16TJ103	10k	1
R929	ERD16TJ274	270k	1
R930	ERD16TJ222	2.2k	1
R931	ERD16TJ334	330k	1
R932,933	ERD16TJ472	4.7k	2
R934,935	ERD16TJ332	3.3k	2
R950	ERD16TJ273	27k	1
R951	ERD16TJ393	39k	1
R999	ERD16TJ273	27k	1
		(OTHERS)	
E101	PQJJ1D3Z	Jack, External Music	1
E102	PQJJ1G1Z	Jack, Paging	1
E103	PQJJ1TA3Y	Jack,CO (MJ1A, MJ1B, MJ1C) ⚠	3
E104	PQJJ1TB16Z	Jack, Station Modular (MJ2A-2H)	8
E105	PQJP14D49Z	Connector Plug, 14P (CN7)	1
E106	PQJP2F4Z	Connector Plug, 2P	1
E107	PQJP4D14Z	Connector Plug, 4P (CN6)	1
E108	PQJP7G3Z	Connector Plug, 7P (CN5)	1
E109	PQJP8D3Z	Connector Plug, 8P (CN4)	1
E110	PQJP3D9Z	Connector Plug, 3P (CN8)	1

Ref. No.	Part No.	Part Name & Description		Pcs
POWER REGULATOR BOARD PARTS				
PCB2	PQWP230810M1	Power Regulator P.C. Board Ass'y (NLA)		1
		(ICs)		
IC1	AN78L18	IC	S	1
IC2	Not Used			
IC3	AN78M12F	IC	S	1
IC4,5	Not Used			
IC6	PQVIPD4066UC	IC	S	1
IC7,8	AN78M15F	IC	S	2
		(TRANSISTORS)		
Q1	2SD1275	Transistor (Si)		1
Q2	2SD637	Transistor (Si)		1
Q3	2SD1406	Transistor (Si)		1
Q4,5	2SC2021	Transistor (Si)		2
Q6	DTC143XA	Transistor (Si)		1
Q7,8	2SD1406	Transistor (Si)		2
Q9,10	DTC144A	Transistor (Si)	S	2
		(DIODES)		
D1	PQVD2B4B41	Diode (Si)		1
D2	PQVDMI151	Diode (Si)		1
D3,4	1SR35-200	Diode (si)	S	2
D5	Not Used			
D6	MA1068	Diode (si)	S	1
D7	MA4200	Diode (Si)		1
D8	Not Used			
D9,10,11	1SR35-200	Diode (si)	S	3
D12	MA4091	Diode (Si)		1
D13	MA4062	Diode (Si)		1
D14,15	1SR35-200	Diode (si)	S	2
D16	Not Used			
D17	1SR35-200	Diode (si)	S	1
D18	MA4051	Diode (Si)		1
D19	1SS131	Diode (Si)		1
		(RELAY)		
RLY1	PQSL50Z	Relay		1
		(CAPACITORS)		
C3	EECW0H104ZN	100000		1
C4	Not Used			
C5	ECET35S222SW	2200		1
C6	ECET50S682SW	6800		1
C7	ECET35S222SW	2200		1
C8	ECEA1HU101	100		1
C9	ECEA1VU471	470		1
C10	Not Used			
C11	ECEA1EU101	100		1
C12	Not Used			
C13	ECEA1EU331	330		1
C14	ECEA1HU100	10	S	1
C15,16	ECKD1H103KB	0.01		2
C17	ECEA1AU222	2200	S	1
C18	ECEA1HU100	10	S	1
C19	ECEA2AN100	10		1
C20	Not Used			
C21	ECEA1HU101	100		1

Pcs	Ref. No.	Part Name & Description	Pcs
		(RESISTORS)	
R1	ERD16TJ332	3.3k	1
R2	ERD16TJ102	1k	1
R3	ERD16TJ472	4.7k	1
R4	ERD16TJ332	3.3k	1
R5	ERD16TJ122	1.2k	1
R6	ERD16TJ102	1k	1
R7	ERD16TJ472	4.7k	1
R8	ERD16TJ223	22k	1
R9,10	ERD16TJ683	68k	2
R11,12	PQRD2VJ2R7	2.7	2
R13	ERD16TJ102	1k	1
R14	Not Used		
R15	ERD16TJ471	470	1
R16	ERD16TJ472	4.7k	1
R17	ERD16TJ223	22k	1
R18	ERD16TJ473	47k	1
R19	ERD16TJ332	3.3k	1
R20	ERD16TJ822	8.2k	1
R21	ERD16TJ274	270k	1
R22,23,24	Not Used		
R25,26	ERD16TJ272	2.7k	2
R27,28	ERD16TJ223	22k	2
R29,30	PQRD1VJ3R3	3.3	2
R31	PQRD12TJ101	100	1
		(OTHERS)	
E1	XBA1C15NU100	Fuse (F2,F3)	2
E2	PQJP5D30Z	Connector Plug, 5P (CN1)	1
E3	PQJP5D48Z	Connector Plug, 5P (CN2)	1
E4	PQJP5D7Z	Connector Plug, 5P (CN3)	1
E5	PQJS7L30Z	Connector Socket, 7P (w/Lead) (J5)	1
E6	PQJS8L30Z	Connector Socket, 8P (w/Lead) (J4)	1
E7	PQJS3L32Z	Connector Socket, 3P (J8)	1
LED BOARD PARTS			
PCB3	PQWP3T30810M	LED P.C. Board Ass'y (NLA)	1
		(DIODES)	
D800	LN220RPH	LED	1
D801	LN420YPH	LED	1
D802	LN320GPH	LED	1
		(OTHERS)	
E800	PQJS4R31Z	Connector Socket, 4P (w/Lead) (J6)	1
E801	PQHR402Z	Spacer, LED	1

Pcs	Ref. No.	Part Name & Description	Pcs
		POWER SUPPLY PARTS	
PCB4	PQWP4T30810M	Power P.C. Board Ass'y (NLA) (with/ C601,C602,C604,C605, ZNR600, L600, E603, E604 and E606)	1
		(CAPACITORS)	
C601,602	ECKDKC222KB	0.0022 ⚠ S	2
C604,605	ECQU1A473MH	0.047 ⚠	2
		(VARISTOR)	
ZNR600	ERZC14DK431U	Varistor ⚠	1
		(SWITCH)	
SW1	EST15704V	Switch, Power ⚠	1
		(TRANSFORMERS)	
T1	PQLT5M9M4A	Power Transformer ⚠	1
T2	PQLT1K9M1A	Bell Transformer	1
		(COIL)	
L600	PQLE61	Coil ⚠	1
		(OTHERS)	
E600	PQWAT616M	Power Cord Assembly ⚠	1
E601	PQUV36Y	Power Box Cover	1
E602	PQUV37Y	Power Box	1
E603	PQJP7C1Z	Connector Plug, 7P ⚠	1
E604	PQJS5L30Z	Connector Socket, 7P (w/Lead) (J3) ⚠	1
E605	PQMD4012Z	Bracket, Power Box	1
E606	XBA2F15NU2	Fuse ⚠	1
E607	PQQT4181Z	Label	1

ORDER NO. KMS9802249S3

Service Manual

Supplement-2

EASA-PHONE

ELECTRONIC MODULAR

SWITCHING SYSTEM

KX-T30810B-3

(for Asia, Middle Near East and Other areas)

Please file and use this supplement manual together with the service manual for Model No. KX-T30810B-3 (for Asia, Middle Near East and Other areas), Order No. KM49208241A3.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians.
Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

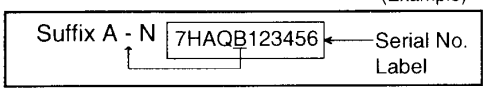
CHANGES

Subject:

Suffix	Reason for suffix change
A → B	Change of the software (IC101 ROM version: Y121P → Y121S). Parts list is no change.
B → C	Addition of surge absorber on the main board and for automatic insert machine.
C → D	Change of ROM (IC101: EPROM → MASKROM). There is no change in the parts list.
D → E	Addition of Jumper wire for pattern mistake on the main board. (Parts list is no change).
E → F	Not used.
F → G	Change of power cord.
G → H	Improve performance of reversed electrical current.
H → I	Change of the software (IC101 ROM version: Y121S → Y211M). Parts list is no change.
I → J	Not used.
J → K	Change of the main board.
K → L	Change of the crosspoint switches.
L → M	Change of ROM (IC101: MASKROM → EPROM, version: Y211M → Y211V).
M → N	Change of the cushion material for standing the drop shock. (There is no change in the replacement parts list).

Suffix location:

(Example)



Panasonic

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■ REPLACEMENT PARTS LIST ..... Change from original pages 20-24.

Reason for Change	Following 1-8 reasons are indicated on the Notes in the bottom column.
1. Improve performance 2. Change of material or dimension 3. To meet approved specification 4. Standardization 5. Addition 6. Deletion 7. Correction 8. Other	**Note**: *1 The part with mark *1 have been changed at the same time. *2 The part with mark *2 have been changed at the same time. *3 The part with mark *3 is change of Ref. No.

Interchangeability Code Following V-Z interchangeabilities are indicated on the Notes in the bottom column.

	Parts	Set Production	Description
V	Original / New	Early (before change) / Late (after change)	Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.
W	Original / New	Early (before change) / Late (after change)	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X	Original / New	Early (before change) / Late (after change)	New parts only may be used in early or late production sets. Stock new parts.
Y	Original / New	Early (before change) / Late (after change)	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
Z	Other		

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes		Time of change (Suffix)
	Original Part	**New Part**						
CABINET & ELECTRICAL PARTS								
7	P-01H-F2G1	----------	BATTERY	0		6		I
8	PQUV50Z	**PQUV50T**	BATTERY COVER	1		1	X	I
ACCESSORIES AND PACKING MATERIALS								
A9	----------	**PSQW1143Z**	LEAFLET FOR ADDED FUNCTIONS	1		5		M
P3	PQPN9036Y	**PQPN9036X**	CUSHION COMPLETE (L, R SIDE)	1		7		
MAIN BOARD PARTS								
IC116	PQVITP5089N	**PQVIUM95089**	IC	1	*1	8	W	
IC125-130	PQVIM402101P	**MN6105**	IC	6		8	Y	J
IC201A-201C	PQVIPD4066BC	**PQVITC4066BF**	IC S	3		2	Y	I
Q200A-200C	2SA1626	**2SA1009A**	TRANSISTOR (SI) ⚠	3		1	W	C
	2SA1009A	**2SA1627**	TRANSISTOR (SI)	3		1	V	
Q201A-201C	2SC2235	**2SD1897**	TRANSISTOR (SI) ⚠	3		1	W	C
D115	1SV124	**JUMPER WIRE**	JUMPER WIRE	1		8	Y	
D116	1SS131	----------	DIODE	0		6		
D205A-205C	MA4047	----------	DIODE (SI)	0	*2	6		
D206A-206C	MA4047	----------	DIODE (SI)	0	*2	6		
D307A-307H	----------	**1SS131**	DIODE (SI)	8		5		C
D400-402	----------	**1SS131**	DIODE (SI) S	3		5		I
BAT1	----------	**CR23541GUF**	LITHIUM BATTERY	1		5		I
ZNR30A-30H	ERZC03DK241	**ERZTC5AK390**	VARISTOR	8		1	X	C
ZNR31A-31H	ERZC03DK241	**ERZTC5AK390**	VARISTOR	8		1	X	C
ZNR32A-32H	ERZC07DK820	**ERZTC5AK390**	VARISTOR	8		1	X	C
ZNR33A-33H	----------	**ERZTC5AK390**	VARISTOR	8		5		C
X101	PQVCX3579H5R	**PQVBFC3584A1**	CRYSTAL OSCILLATOR S	1		1	W	C
X103	PQVCL3276N4Z	**PQVCL3276N6Z**	CRYSTAL OSCILLATOR	1		8	W	
Z111	----------	**PQRSLD3X472J**	RESISTOR ARRAY S	1		5		C
	PQRSLD3X472J	----------	RESISTOR ARRAY S	0		6		H

Reason for Change

Interchangeability Code

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes		Time of change (Suffix)
	Original Part	New Part						
L110,L111	PQLQZM2R2K	----------	CHOKE COIL	0		6		I
L200A-200C	PQLQZK101K	**PQLE106**	CHOKE COIL	3		1	Y	I
L202A-202C	PQLQZK101K	**PQLE106**	CHOKE COIL	3		1	Y	I
L301B-301C	----------	**ERDS2TJ0T**	RESISTOR, 0Ω	2		5		I
J202	----------	**ERDS2TJ0T**	RESISTOR, 0Ω	1		5		I
VC100	PQCVTZB30B	**ECRLA030E53**	TRIMMER	1		1	W	C
	ECRLA030E53	**ECCD1H180JC**	CAPACITOR, 18PF	1		8	W	
TH1	PQRRTS104U	----------	THERMISTOR	1		6		
TH2	PQRRTS203U	----------	THERMISTOR	1		6		
PC200A-200C	PQVITLP520	**0N3181R**	PHOTO COUPLER ⚠ S	3		1	Y	I
C107	ECQM1H472JV	**ECCD1H180JC**	CAPACITOR, 18PF	1		8	W	
C182-184	----------	**ECQV1H104JZ**	CAPACITOR, 0.1µF	3		5		C
	ECQV1H104JZ	----------	CAPACITOR, 0.1µF	0		6		I
C185	----------	**ECCD1H680JC**	CAPACITOR, 68PF	1		5		C
	ECCD1H680JC	----------	CAPACITOR, 68PF	0		6		I
C186-187	----------	**ECQV1H104JZ**	CAPACITOR, 0.1µF	2		5		C
	ECQV1H104JZ	----------	CAPACITOR, 0.1µF	0		6		I
C200A-200C	ECQE2E474KZ	**ECQE2224KF**	CAPACITOR, 0.22µF	3	*2	8	V	
C204A-204C	ECQV1H473MD	**ECUV1H333JC**	CAPACITOR, 0.033µF	3		1	Y	
C205A-205C	ECUV1H563MD	**PQCUV1E563MD**	CAPACITOR, 0.056µF	3		2	Y	I
C206A-206C	ECUV1H563MD	**PQCUV1E563MD**	CAPACITOR, 0.056µF	3		2	Y	I
C207A-207C	ECUV1H121JC	**PQCUV1H121JC**	CAPACITOR, 120PF	3		2	Y	I
	PQCUV1H121JC	**PQCUV1H680JC**	CAPACITOR, 68PF	3		1	Y	
C208A-208C	ECQM1H183JV	**PQCUV1H183KB**	CAPACITOR, 0.018µF	3		2	Y	I
	PQCUV1H183KB	----------	CAPACITOR, 0.018µF	0		6		
C209A-209C	ECUV1H183KB	**PQCUV1H183KB**	CAPACITOR, 0.018µF	3		2	Y	I
	PQCUV1H183KB	----------	CAPACITOR, 0.018µF	0		6		
C210A-210C	ECUV1H563MD	**PQCUV1E563MD**	CAPACITOR, 0.056µF	3		2	Y	I
C211A-211B	ECUV1H563MD	**PQCUV1E563MD**	CAPACITOR, 0.056µF	2		2	Y	I
C211C	ECUV1H563MD	----------	CAPACITOR, 0.056µF	0		6		I
C212A-212C	ECUV1H121JC	**PQCUV1H121JC**	CAPACITOR, 120PF	3		2	Y	I
	PQCUV1H121JC	**PQCUV1H680JC**	CAPACITOR, 68PF	3		1	Y	
C213A-213C	----------	**PQCUV1H680JC**	CAPACITOR, 68PF	3		5		
C214A-214C	----------	**PQCUV1H680JC**	CAPACITOR, 68PF	3		5		
C221A-221C	ECKD1H102JA	**PQCUV1H102J**	CAPACITOR, 0.001µF	3		2	Y	I
C307A-307H	----------	**ECQB1H393KF**	CAPACITOR, 0.039µF	8		1	Y	C
R106	ERDS2TJ821	----------	RESISTOR, 820Ω	0		6		I
R159	PQ4R18XJ472	**PQ4R18XJ473**	RESISTOR, 47kΩ	1		8	W	
R161	PQ4R18XJ472	**PQ4R18XJ473**	RESISTOR, 47kΩ	1		8	W	
R174	ERDS2TJ225	----------	RESISTOR, 2.2MΩ	0		6		
R175	ERDS2TJ154	----------	RESISTOR, 150kΩ	0		6		
R176	ERDS2TJ223	----------	RESISTOR,22kΩ	0		6		
R185	ERDS2TJ103	**PQ4R10XJ103**	RESISTOR, 10kΩ	1		2	Y	I
R196,R197	PQ4R18XJ222	----------	RESISTOR, 2.2kΩ	0	*3	6		I
R916,R917	----------	**PQ4R18XJ222**	RESISTOR, 2.2kΩ	1	*3	5		I
R201A-201C	ERDS2TJ122	**PQ4R10XJ332**	RESISTOR, 3.3kΩ	3		2	Y	I
R202A-202C	ERDS2TJ104	**PQ4R10XJ104**	RESISTOR, 100kΩ	3		2	Y	I
R204A-204C	ERDS2TJ5R6	----------	RESISTOR, 5.6Ω	0		6		I

Reason for Change

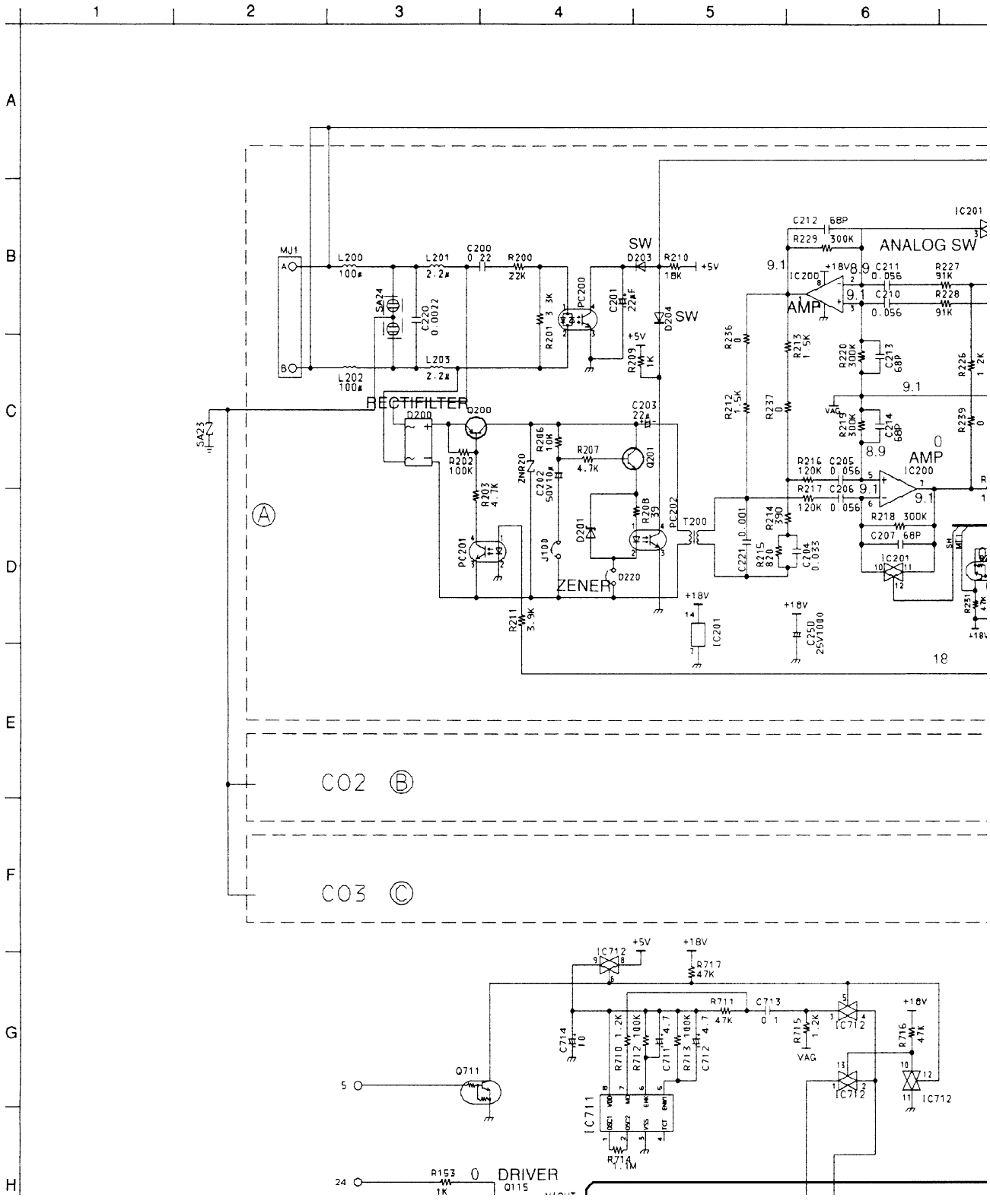
Interchangeability Code

KX-T30810B-3

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes		Time of change (Suffix)
	Original Part	**New Part**						
R207A-207C	ERDS2TJ472	**PQ4R10XJ472**	RESISTOR, 4.7kΩ	3		2	Y	I
R210C	ERDS2TJ183	**PQ4R10XJ183**	RESISTOR, 18kΩ	1		2	Y	I
R211A-211C	ERDS2TJ392	**PQ4R10XJ392**	RESISTOR, 3.9kΩ	3		2	Y	I
R212A-212C	PQ4R18XJ122	**ERDS2TJ122**	RESISTOR, 1.2kΩ	3		2	Y	I
	ERDS2TJ122	**ERDS2TJ152**	RESISTOR, 1.5kΩ	3		1	Y	
R213A-213C	PQ4R18XJ122	**ERDS2TJ122**	RESISTOR, 1.2kΩ	3		2	Y	I
	ERDS2TJ122	**ERDS2TJ152**	RESISTOR, 1.5kΩ	3		1	Y	
R214A-214C	PQ4R18XJ391	**PQ4R10XJ391**	RESISTOR, 390Ω	3		2	Y	I
R215A-215C	PQ4R18XJ122	**PQ4R10XJ102**	RESISTOR, 1kΩ	3		2	Y	I
	PQ4R10XJ102	**PQ4R10XJ821**	RESISTOR, 820Ω	3		1	Y	
R216A-216C	ER016CKF1003	**PQ4R10XF1003**	RESISTOR, 100kΩ	3		2	Y	I
	PQ4R10XF1003	**PQ4R10XJ124**	RESISTOR, 120kΩ	3		1	Y	
R217A-217C	PQ4R18XF1003	**PQ4R10XF1003**	RESISTOR, 100kΩ	3		2	Y	I
	PQ4R10XF1003	**PQ4R10XJ124**	RESISTOR, 120kΩ	3		1	Y	
R218A-218C	PQ4R18XF3003	**ER016CKF3003**	RESISTOR, 300kΩ	3		2	Y	I
R222A-222C	ERDS2TJ122	**PQ4R10XJ122**	RESISTOR, 1.2kΩ	3		2	Y	I
R223A-223C	ERDS2TJ122	**PQ4R10XJ122**	RESISTOR, 1.2kΩ	3		2	Y	I
R224A-224C	ERDS2TJ471	**PQ4R10XJ471**	RESISTOR, 470Ω	3		2	Y	I
	PQ4R10XJ471	**PQ4R10XJ000**	RESISTOR, 0Ω	3		1	Y	
R225A-225C	ERDS2TJ471	**PQ4R10XJ471**	RESISTOR, 470Ω	3		2	Y	I
	PQ4R10XJ471	**PQ4R10XJ000**	RESISTOR, 0Ω	3		1	Y	
R227A-227C	ER016CKF1003	**PQ4R10XF1003**	RESISTOR, 100kΩ	3		2	Y	I
	PQ4R10XF1003	**PQ4R10XJ913**	RESISTOR, 91kΩ	3		1	Y	
R228A-228C	ER016CKF1003	**PQ4R10XF1003**	RESISTOR, 100kΩ	3		2	Y	I
	PQ4R10XF1003	**PQ4R10XJ913**	RESISTOR, 91kΩ	3		1	Y	
R234C	ERDS2TJ473	**PQ4R10XJ473**	RESISTOR, 47kΩ	1		2	Y	I
R235A-235C	ERDS2TJ683	**PQ4R10XJ683**	RESISTOR, 68kΩ	3		2	Y	I
R300A-300B	PQ4R18XJ220	**ERDS2TJ220**	RESISTOR, 22Ω	2		7		
R301A-301H	ERDS2TJ682	**PQ4R10XJ682**	RESISTOR, 6.8kΩ	8		2	Y	I
R303A-303H	ERDS2TJ682	**PQ4R10XJ682**	RESISTOR, 6.8kΩ	8		2	Y	I
R304A-304H	ERDS2TJ470	**PQ4R10XJ682**	RESISTOR, 6.8kΩ	8		2	Y	C
R340A-340H	----------	**ERDS2TJ680**	RESISTOR, 68Ω	8		5		C
R341A-341H	----------	**ERDS2TJ680**	RESISTOR, 68Ω	8		5		C
R361	----------	**PQ4R10XJ000**	RESISTOR, 0Ω	1		5		I
R363	----------	**PQ4R10XJ000**	RESISTOR, 0Ω	1		5		I
R374	----------	**PQ4R10XJ000**	RESISTOR, 0Ω	1		5		I
R702	ERDS2TJ102	**PQ4R10XJ102**	RESISTOR, 1kΩ	1		2	W	C
	PQ4R10XJ102	**ERDS2TJ102**	RESISTOR, 1kΩ	1		2	W	I
R919	ERDS2TJ123	**ERDS2TJ153**	RESISTOR, 15kΩ	1	*1	8	W	
	ERDS2TJ153	**ERDS2TJ123**	RESISTOR, 12kΩ	1		1	Y	
R921	ERDS2TJ563	**ERDS2TJ333**	RESISTOR, 33kΩ	1	*1	8	W	
	ERDS2TJ333	**ERDS2TJ223**	RESISTOR, 22kΩ	1		1	Y	
R999	ERDS2TJ183	**PQ4R10XJ183**	RESISTOR, 18kΩ	1		2	Y	I
E106	PQJP2F4Z	----------	CONNECTOR PLUG, 2P	1		6		I
POWER REGULATOR BOARD PARTS								
R4	ERDS2TJ332	**ER016CKF3301**	RESISTOR, 3.3kΩ	1		1	X	
R5	ERDS2TJ112	**ER016CKF1201**	RESISTOR, 1.2kΩ	1		1	X	
POWER SUPPLY PARTS								
E600	PQWAT616BX	**PQWAT616BX1**	POWER CORD ASSEMBLY	1		1	Y	G
E602	PQUV37Y	**PQUV37V**	POWER BOX	1		2	X	

Reason for Change

Interchangeability Code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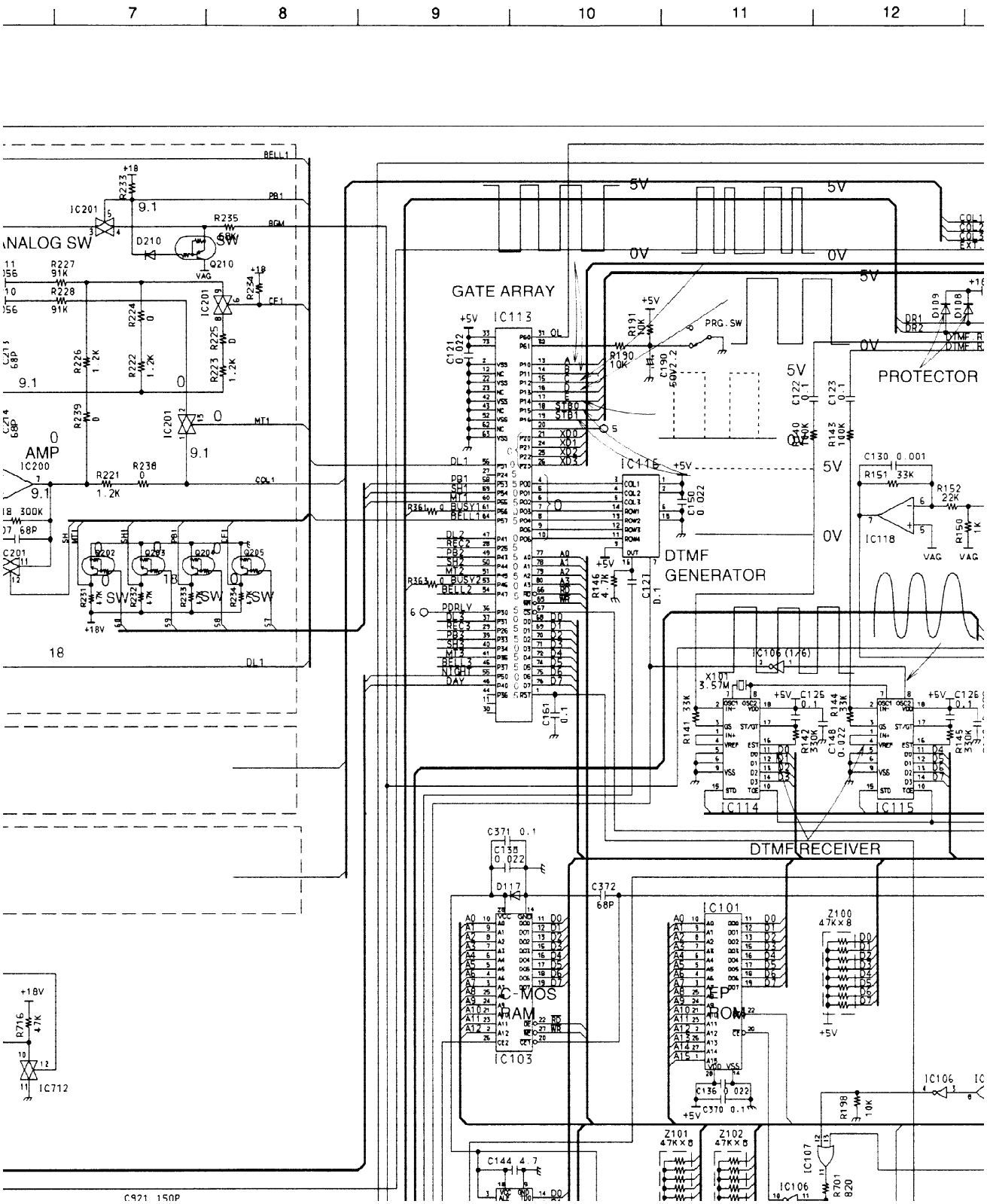
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ANALOG SW
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IC101
IC106 (1/6)
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IC115
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IC712
IC107
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EP ROM
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0V
+5V
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DL2
PB1
PB2
SH1
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MT1
MT2
BUSY1
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BELL2
PDRLY
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STB1
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X01
X02
X03
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ROW3
ROW4
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R190 10K
C190 560/2.2
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X101 3.57M
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C921 150P

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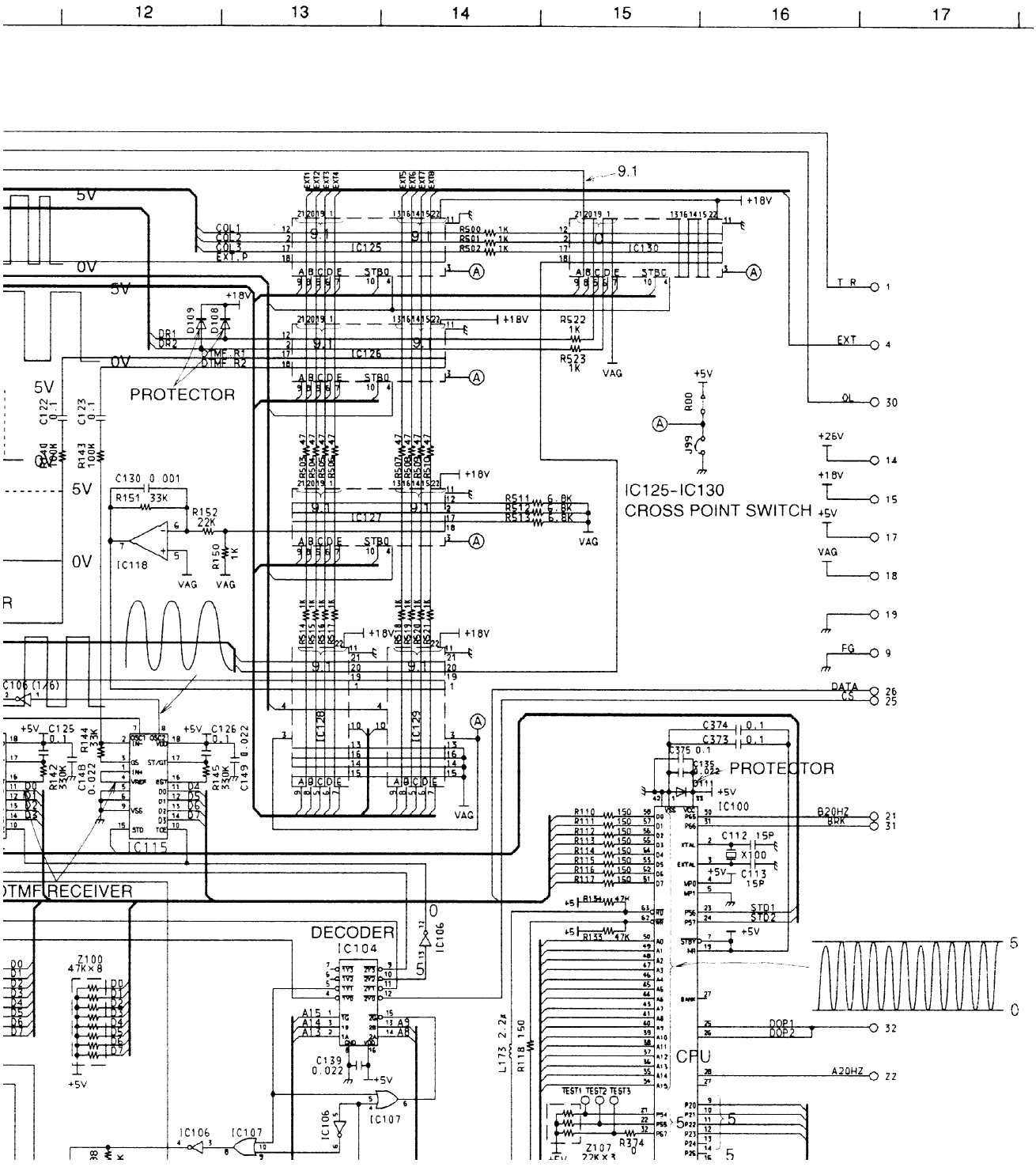
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IC118
IC115
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IC107
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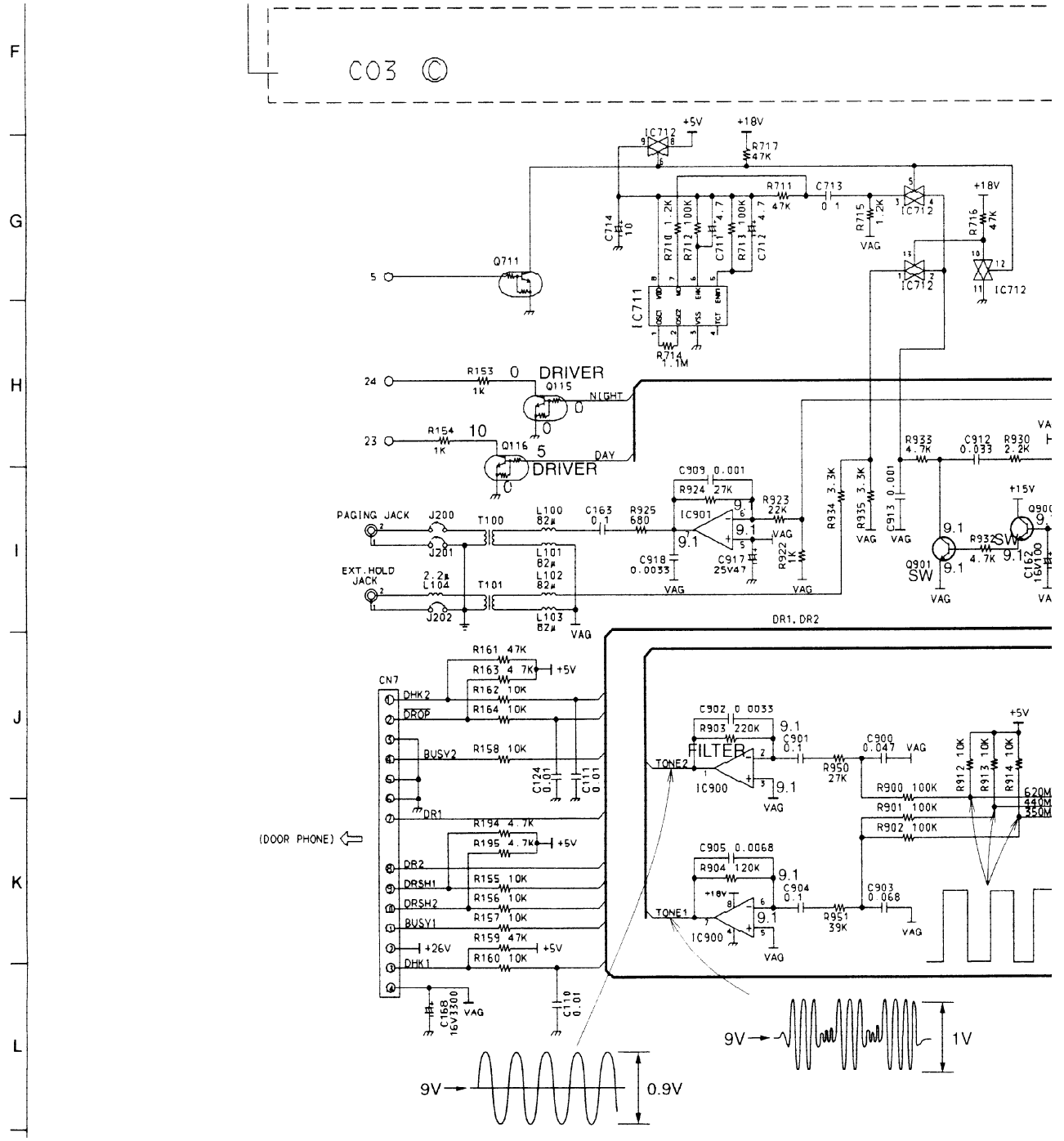
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L103 82μ
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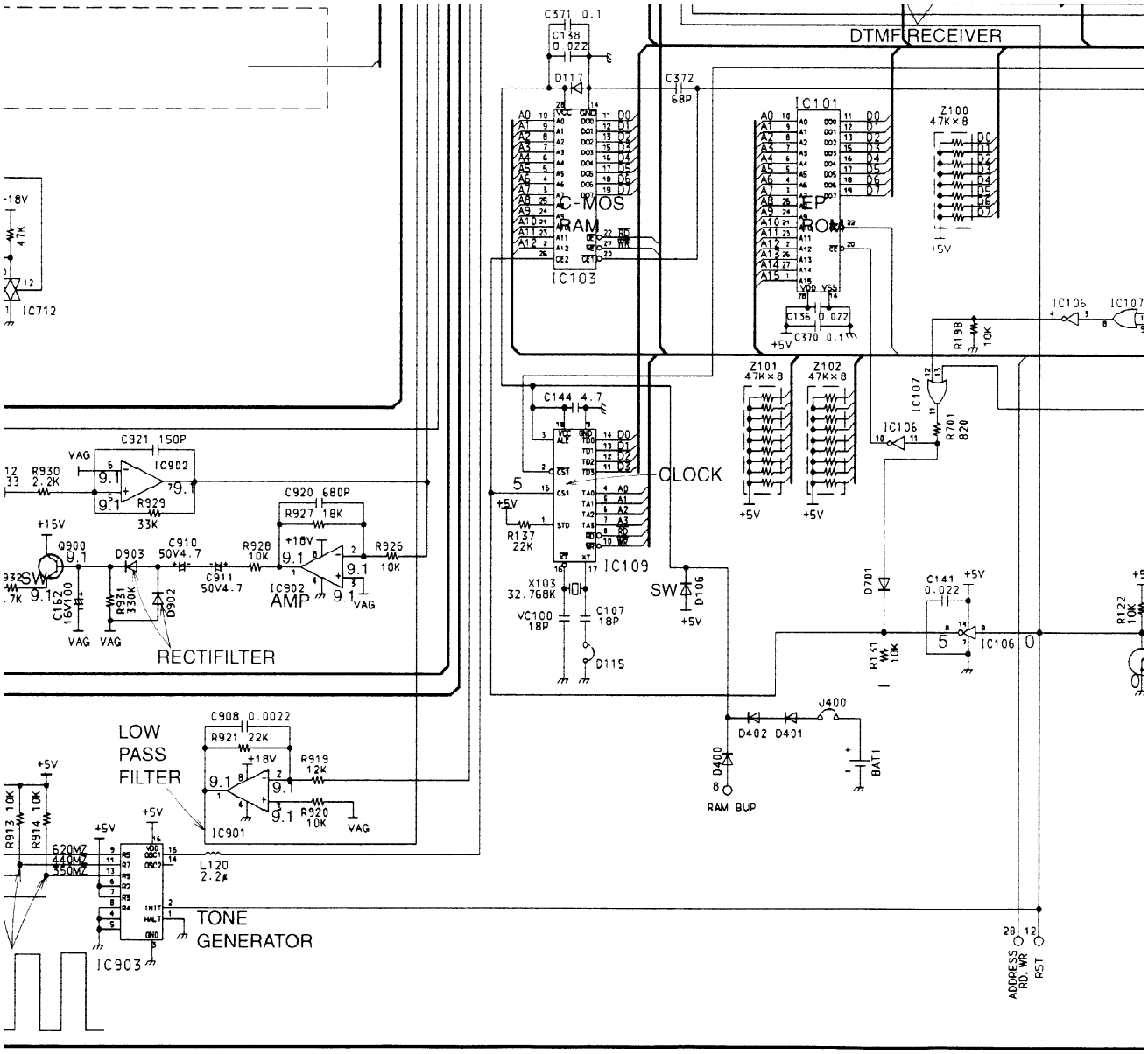
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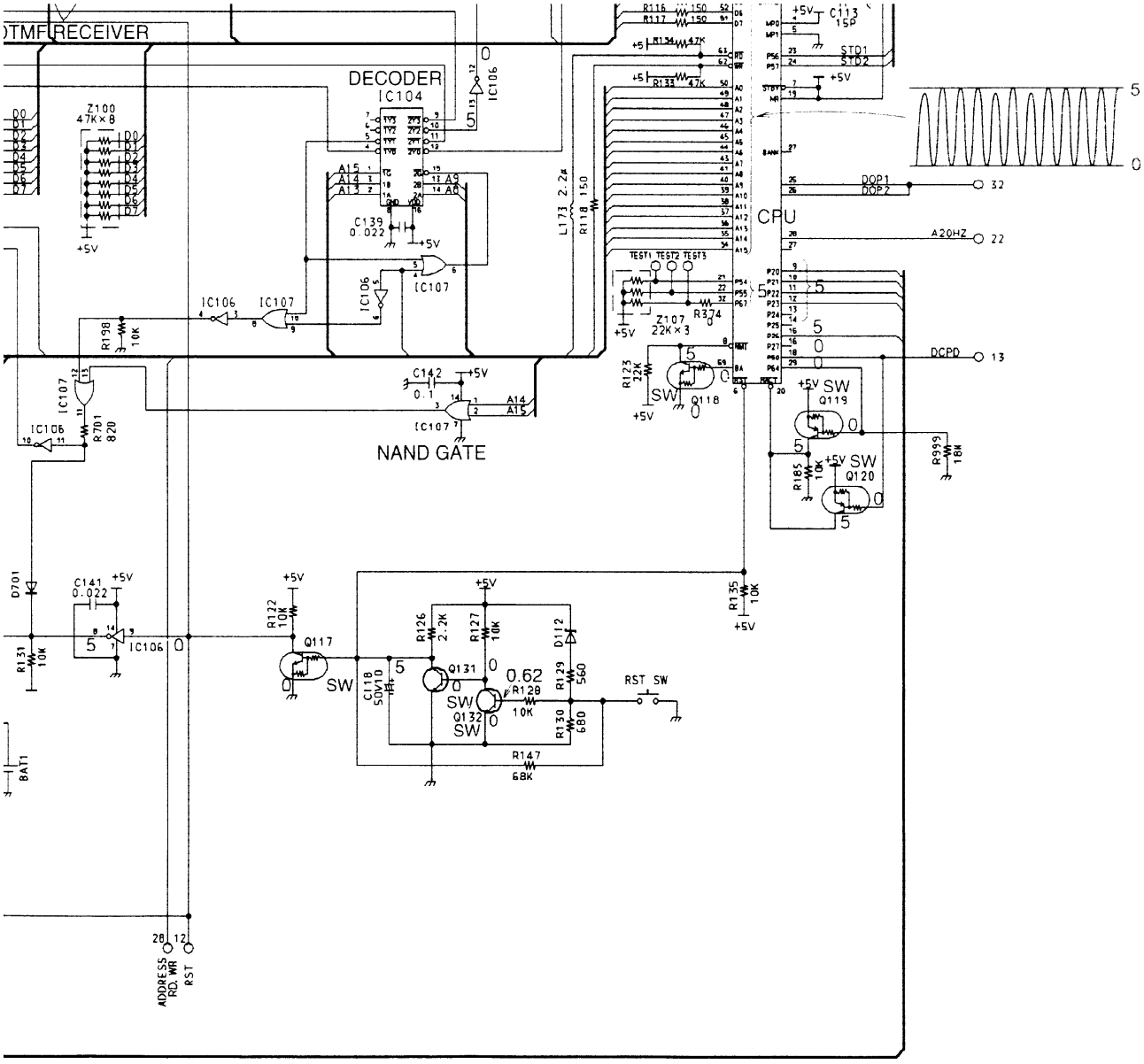
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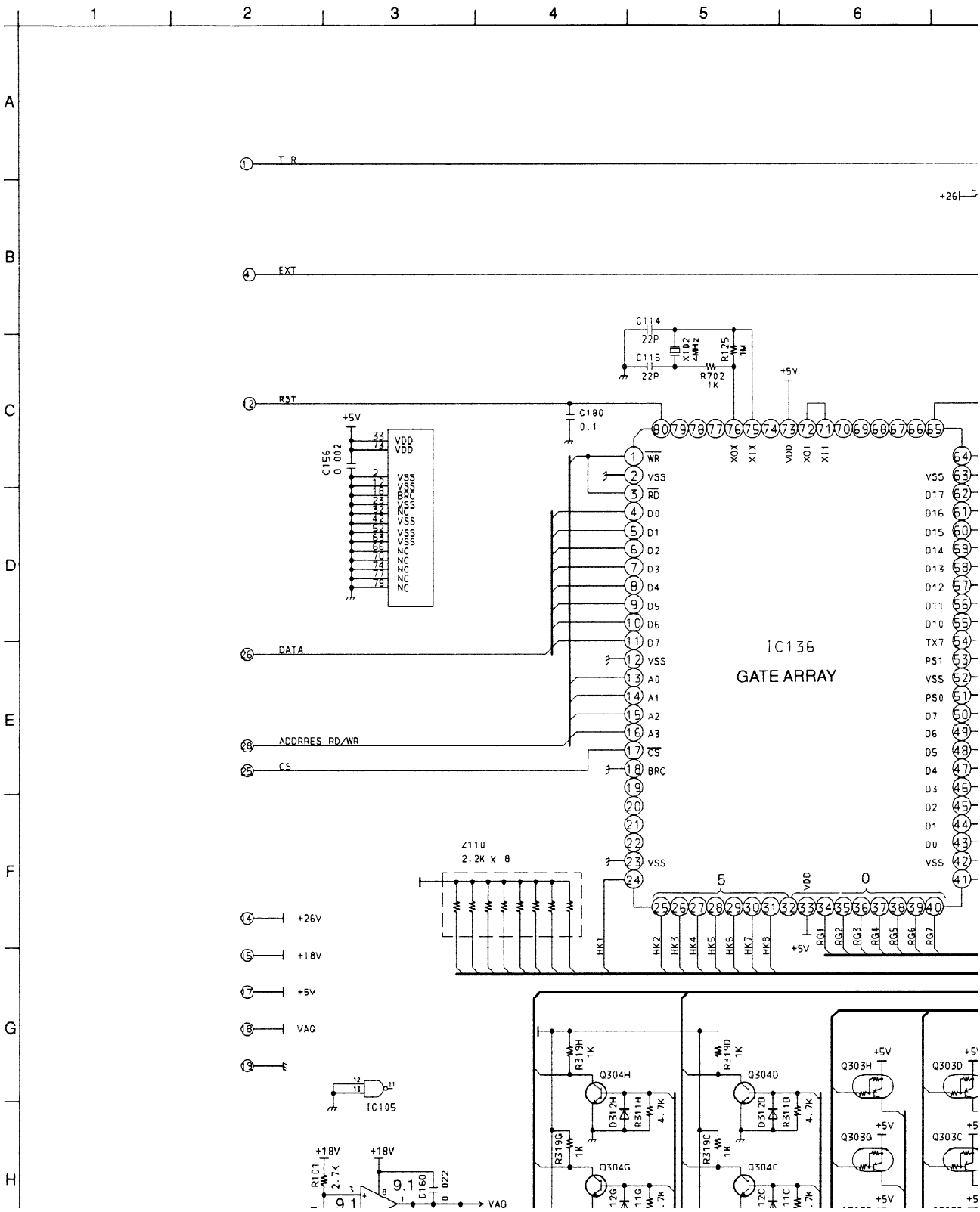
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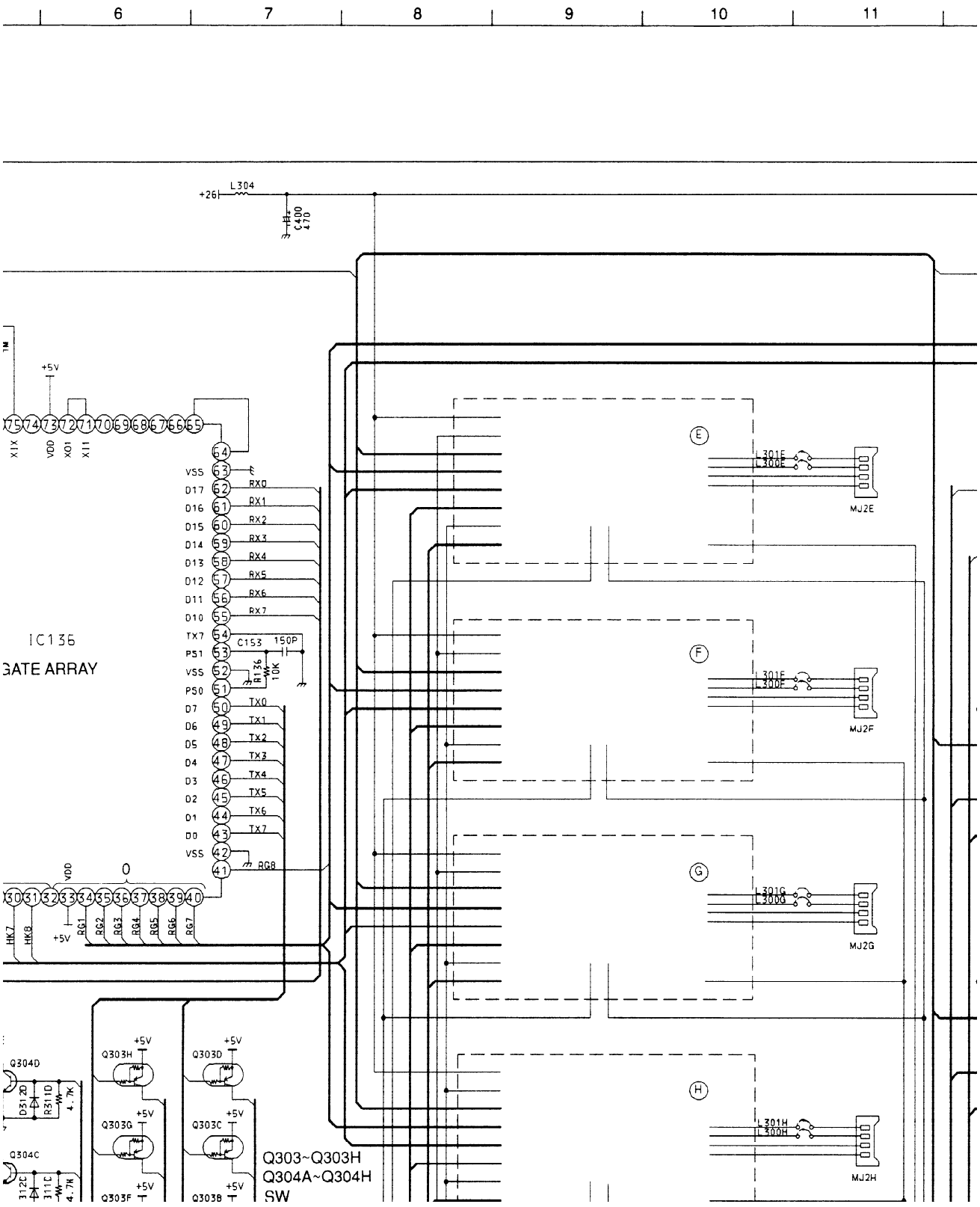
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TX7
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PS0
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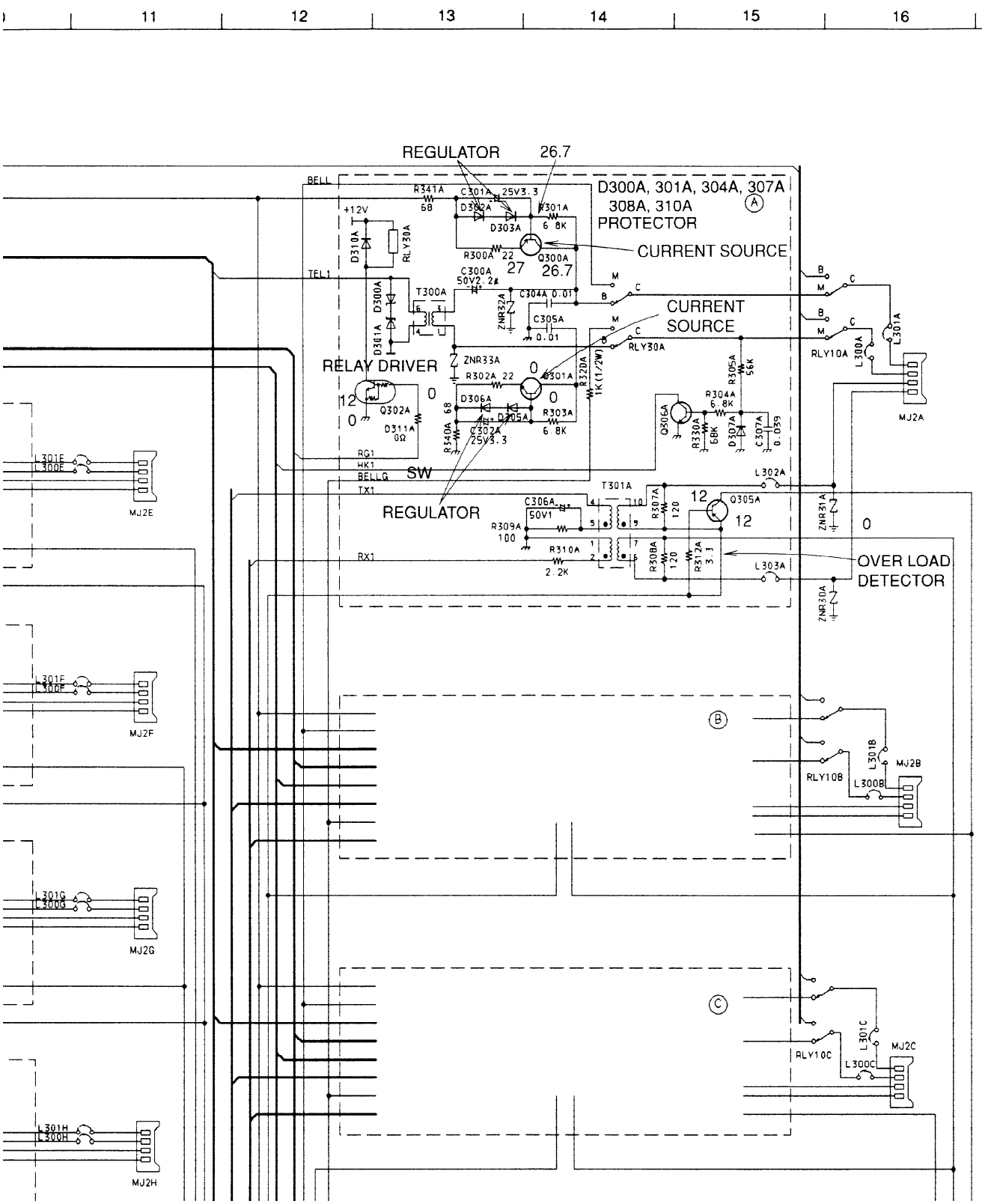
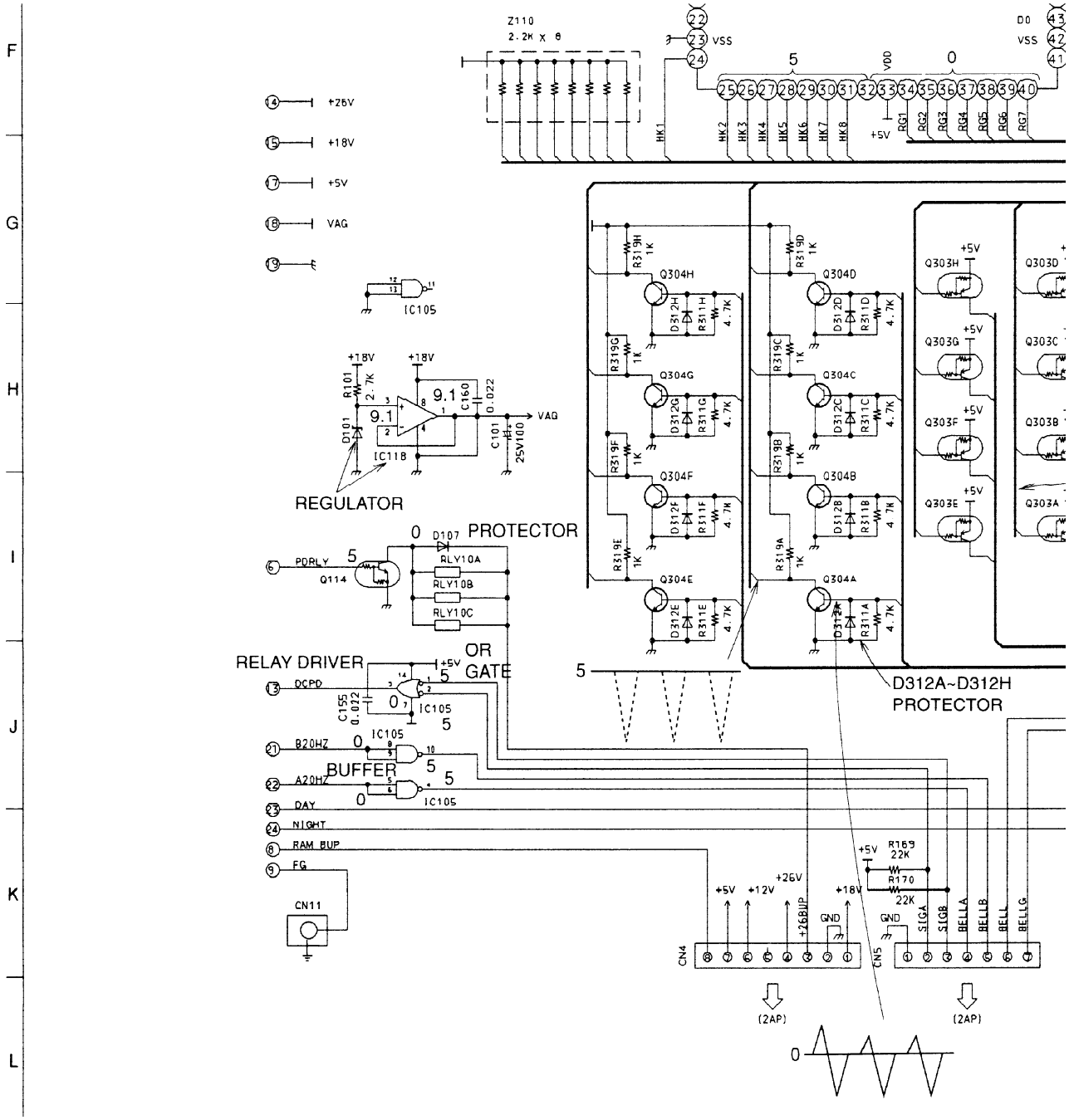
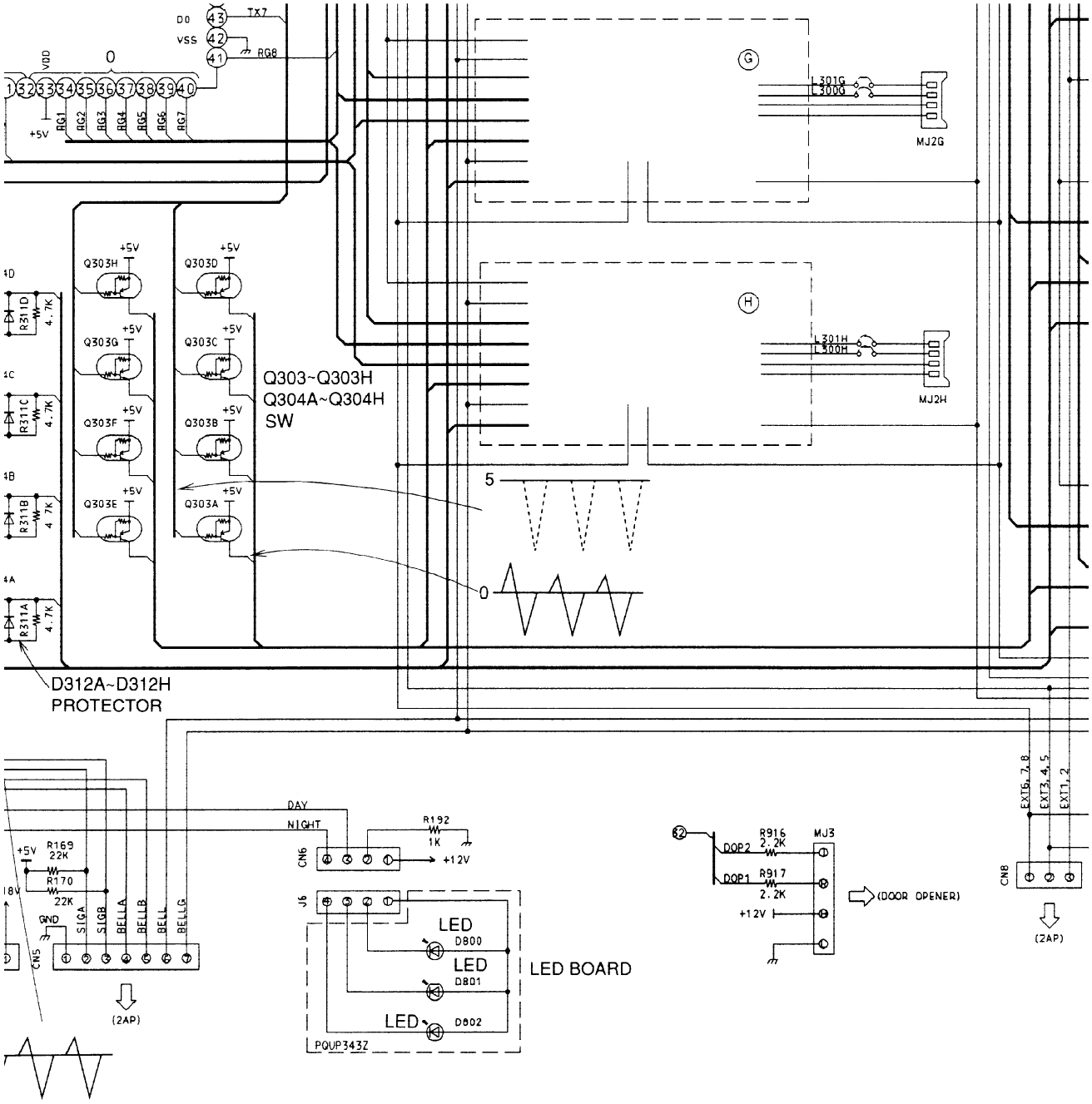
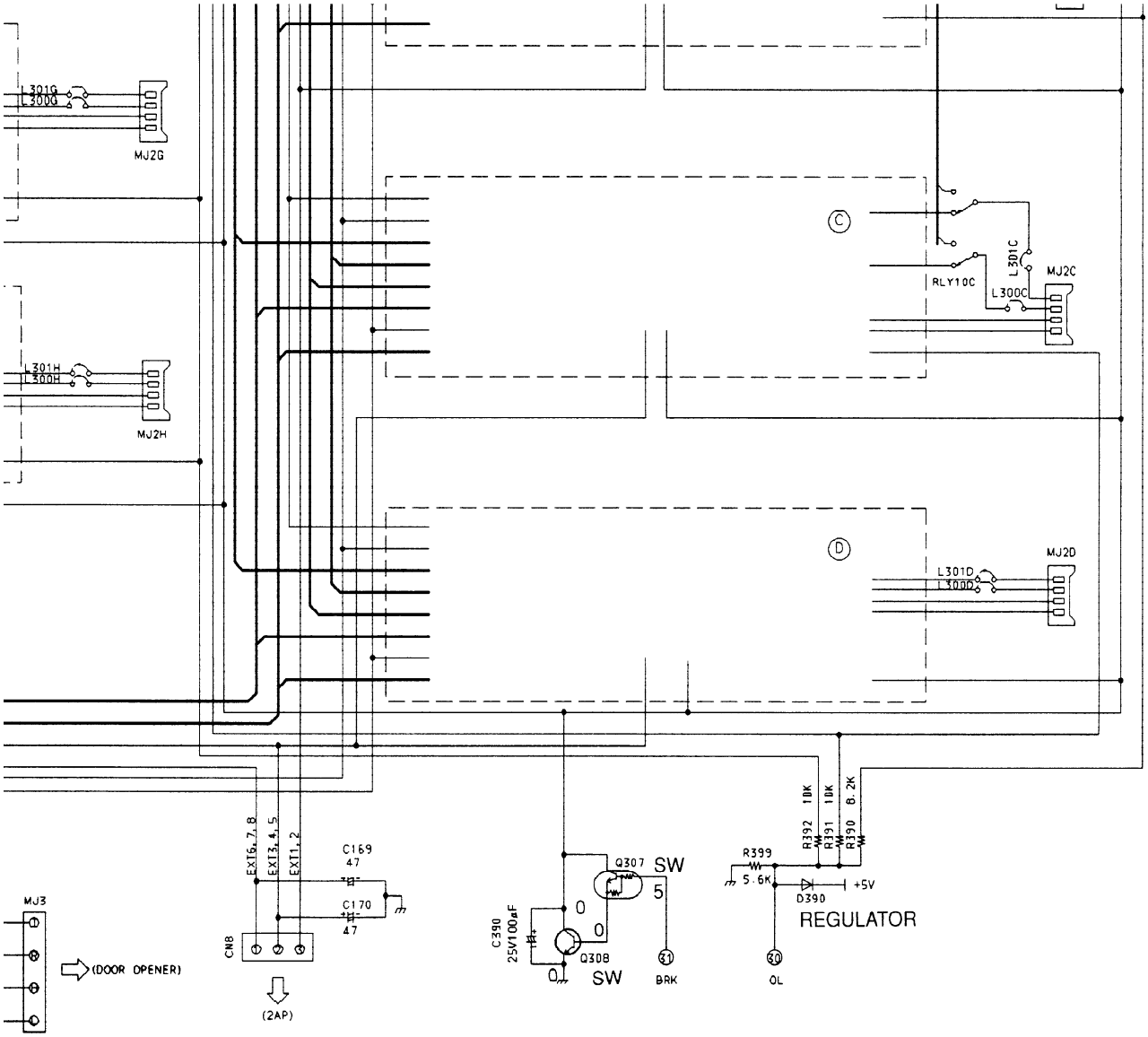
D0
VSS
RX0
RX1
RX2
RX3
RX4
RX5
RX6
RX7
C153
150P
R136
10K
TX0
TX1
TX2
TX3
TX4
TX5
TX6
TX7
RG8
VDD
RG1
RG2
RG3
RG4
RG5
RG6
RG7
HK7
HK8
Q304D
D512D
R311D
4.7K
Q304C
312C
311C
4.7K
Q303H
Q303G
Q303F
Q303D
Q303C
Q303B
Q303~Q303H
Q304A~Q304H
SW
E
F
G
H
L301E
L300E
MJ2E
L301F
L300F
MJ2F
L301G
L300G
MJ2G
L301H
L300H
MJ2H

e from the original pages 16-18




Z110
2.2K X 8
VSS
VDD
D0
+26V
+18V
+5V
VAG
IC105
REGULATOR
PROTECTOR
RELAY DRIVER
OR GATE
BUFFER
PDRLY
Q114
RLY10A
RLY10B
RLY10C
DCPD
B20HZ
A20HZ
DAY
NIGHT
RAM BUP
FG
CN11
CN4
CN5
(2AP)
D312A~D312H
PROTECTOR
R169 22K
R170 22K
SIGA
SIGB
BELLA
BELLB
BELL
BELLG
GND
+12V
+26BUP


Q303~Q303H
Q304A~Q304H
SW
D312A~D312H
PROTECTOR
LED BOARD
LED
D800
D801
D802
PQUP343Z
MJ2G
MJ2H
MJ3
(DOOR OPENER)
(2AP)
(2AP)
DAY
NIGHT
+12V
+5V
GND
SIGA
SIGB
BELLA
BELLB
BELL
BELLG
DOP2
DOP1
R916
R917
2.2K
R192
1K
R169
22K
R170
22K
R311D
R311C
R311B
R311A
4.7K
Q303H
Q303G
Q303F
Q303E
Q303D
Q303C
Q303B
Q303A
CN5
CN6
CN8
J6
EXT6, 7, 8
EXT3, 4, 5
EXT1, 2


L301G
L300G
MJ2G
L301H
L300H
MJ2H
L301C
L300C
RLY10C
MJ2C
L301D
L300D
MJ2D
R392 10K
R391 10K
R390 8.2K
R399
5.6K
D390
+5V
REGULATOR
C169
47
C170
47
EXT6,7,8
EXT3,4,5
EXT1,2
CN8
(2AP)
MJ3
(DOOR OPENER)
Q307
SW
5
Q308
SW
BRK
C390
25V100uF
OL

ORDER NO. KM48811764A1
F5

Service Manual

EASA-PHONE

ELECTRONIC MODULAR SWITCHING SYSTEM

KX-T123211

1. Please use this manual together with the service manual for model No. KX-T123210, order No. KM48712591C1.
2. This service manual indicates the main differences between; Original KX-T123210 and KX-T123211.
3. Technical Guide.....Refer to the KX-T123210 Technical Guide.

SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
CONNECTION\СОЕДИНЕНИЕ
INSTALLATION\УСТАНОВКА
PROGRAMMING\ПРОГРАММИРОВАНИЕ
EXTENSION BOARD CONNECTING METHOD\МЕТОДИКА ПОДСОЕДИНЕНИЯ СЕРВИСНЫХ ПЛАТ
SCHEMATIC DIAGRAMS\ПРИНЦИПИАЛЬНЫЕ СХЕМЫ
VOLTAGE OF IC'S AND TRANSISTORS\НАПРЯЖЕНИЕ НА ИНТЕГРАЛЬНЫХ МИКРОСХЕМАХ И ТРАНЗИСТОРАХ
IC I/O DATA\ДАННЫЕ МИКРОСХЕМЫ ВВОДА/ВЫВОДА
ADJUSTMENTS\РЕГУЛИРОВКИ
REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
99-859 Iwaiwa Street
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

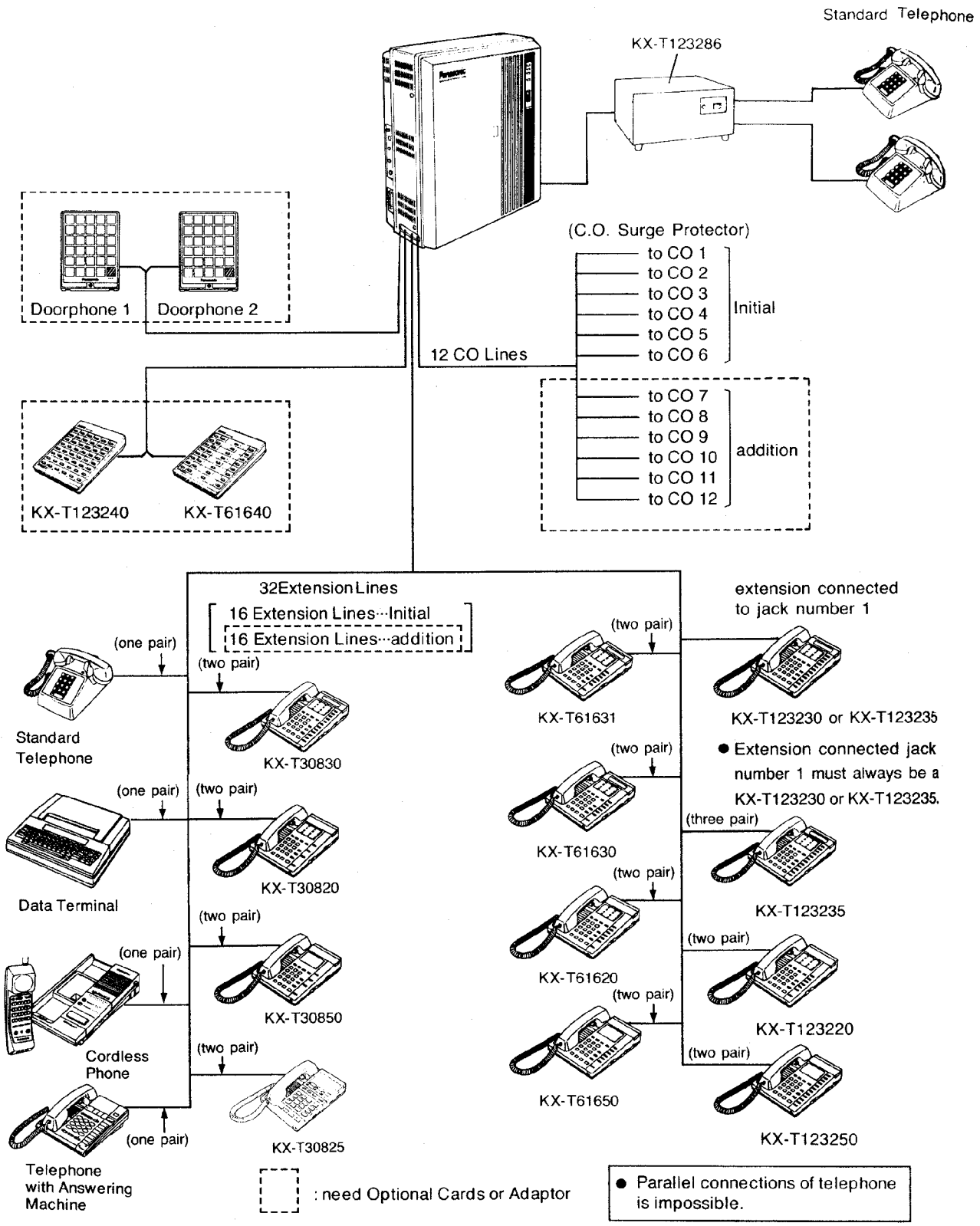
Panasonic

■ SPECIFICATIONS

(General Description)		
2. Control Method.....Stored program CPU: 8 bits CPU	➡	Stored program CPU: 16 bits CPU
4. Power Supplies.....Power Failure		Power Failure
System operation for several hours by recommended battery (car type batteries- consisting of two 12 VDC, 16 amp/hour maximum rating.)	➡	System operation for several hours by KX-A26 and recommended battery (car type batteries-consisting of two 12 VDC)
9. EXT Connection.....Cable 2 pair wire ---------	➡	KX-T30825 (Addition)
3 pair wire ---------		KX-T123235 (Addition)
(Characteristics)		
1. Station Loop Limit: ----------	➡	KX-T123235, KX-T30825 (Addition)
3. Maximum Number of Station Instruments per Line: ----------	➡	KX-T123235, KX-T30825 (Addition)
(Model KX-T123210)		(Model KX-T123211)

KX-T123211

■CONNECTION



(Model KX-T123211)

■ INSTALLATION

1. Model No. KX-T123210 → KX-T123211

2. For details of installation, refer to the Installation Manual (Part No. PQQX5668Z).

3. Printer Connection

Connection Chart:
KX-T123210 RS-232C — Printer RS-232C

Circuit Type (EIA)	Signal Name	Pin No.	Pin No.	Signal Name	Circuit Type (EIA)
AA	FG	1	1	FG	AA
BA	TXD	2	3	RXD	BB
BB	RXD	3	2	TXD	BA
CB	CTS	5			
CC	DSR	4,6	20	DTR	CD
AB	SG	7	7	SG	AB
CD	DTR	20	5	CTS	CB
			6	DSR	CC
			8	DCD	CF

(Model KX-T123210)

Connection Chart:
KX-T123211 RS-232C — Printer RS-232C

Circuit Type (EIA)	Signal Name	Pin No.	Pin No.	Signal Name	Circuit Type (EIA)
AA	FG	1	1	FG	AA
BA	TXD	2	3	RXD	BB
BB	RXD	3	2	TXD	BA
CB	CTS	5			
CC	DSR	6	20	DTR	CD
AB	SG	7	7	SG	AB
CD	DTR	20	5	CTS	CB
			6	DSR	CC
			8	DCD	CF

(Model KX-T123211)

■ PROGRAMMING

1. Model No. KX-T123210
   Model No. KX-T123230 ➡ Model No. KX-T123211
   Model No. KX-T123230 or KX-T123235

2. PROGRAMMING TABLE
   Page 13-17 ➡ Deletion
   [For details of programming, refer to the Installation Manual (Part No. PQQX5668Z) and EIA/Remote Programming Manual (Part No. PQQX5670Z).]

(Model KX-T123210) (Model KX-T123211)

■ EXTENSION BOARD CONNECTING METHOD

Extension Board (Part No. PQZZ2T123210) ➡ Extension Board (Part No. PQZZ1T123210)

(Model KX-T123210) (Model KX-T123211)

OPTIONAL CARD AND EXTENSION BOARD COMPARISON TABLE		
OPTIONAL CARD NO.	EXTENSION BOARD PART NO.	FIG.
KX-T123285 (Off Premise Extension Card)	PQZZ5T123210	A
KX-T123291 (Direct Inward System Access Cards)	PQZZT123291M	B
KX-T123292 (Outgoing Message Card)	PQZZT123291M	B
KX-T123295 (Diagnostic Card)	PQZZ5T123210	A
KX-T123296 (Modem Card)	PQZZ5T123210	A

(Model KX-T123211)

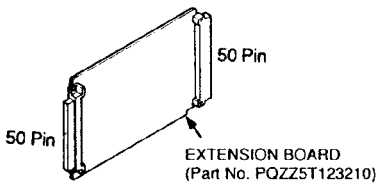


Fig. A

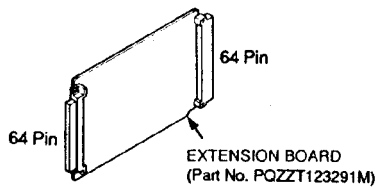


Fig. B

■ SCHEMATIC DIAGRAM

(POWER UNIT)

IC102
Q105,Q209-Q212
D110,D111,D212,D213
PC102
VR101
RL201
C114,C115,C116,C122,C123,C235
R118-R269

➡ Deletion

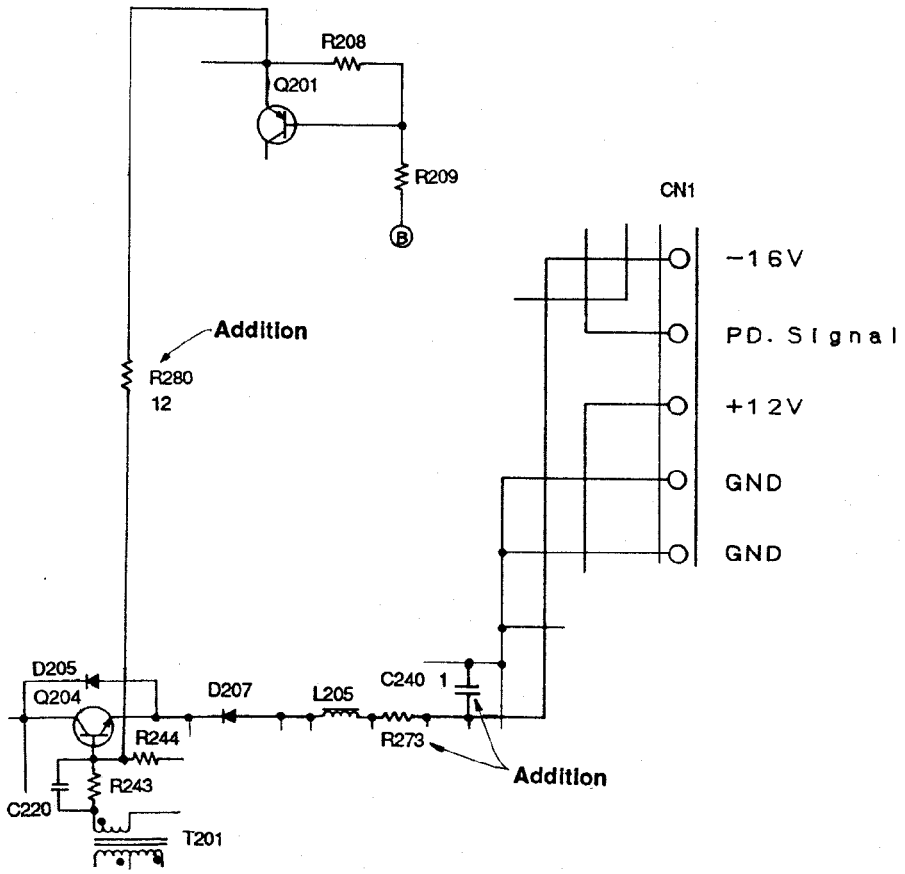
C109 1µF (Electrolytic)
R113 2.2kΩ
R204 18kΩ
R277 100Ω
R260 1.2kΩ

(Model KX-T123210)

➡

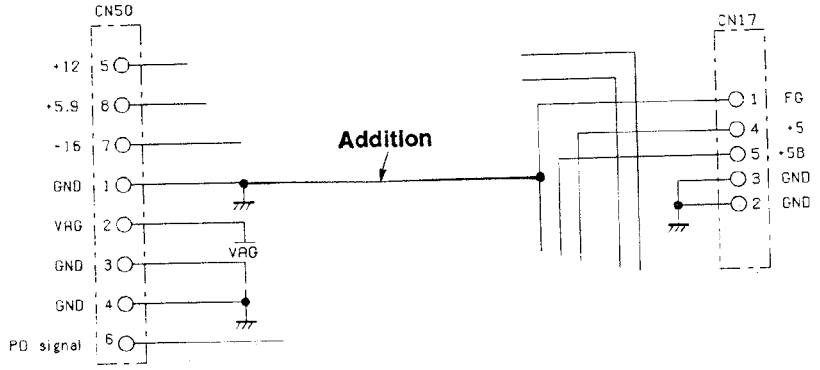
C109 0.1µF (Polyester)
R113 3.9kΩ
R204 20kΩ
R277 33Ω
R260 1kΩ

(Model KX-T123211)



(Model KX-T123211)

(POWER)



(Model KX-T123211)

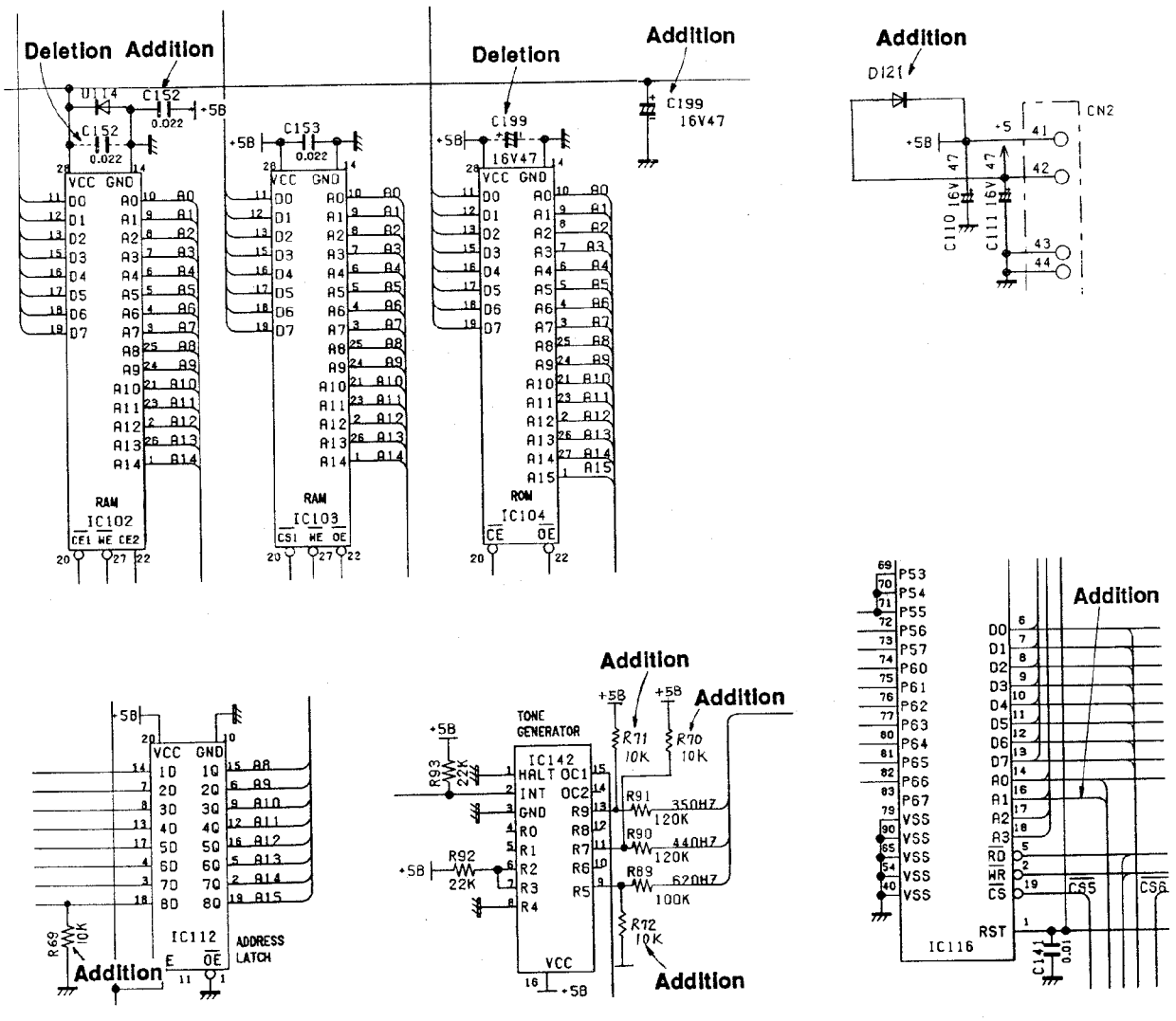
ZNR50 ➡ Deletion

(Model KX-T123210) (Model KX-T123211)

(CPU)

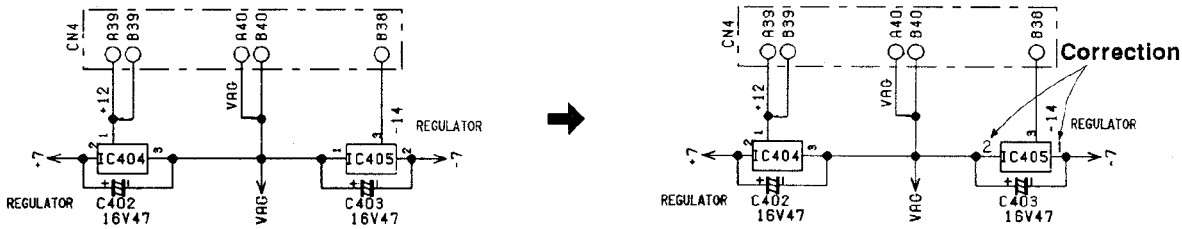
Q106, Q107, D101-D103, R95, R113, R114.....Deletion

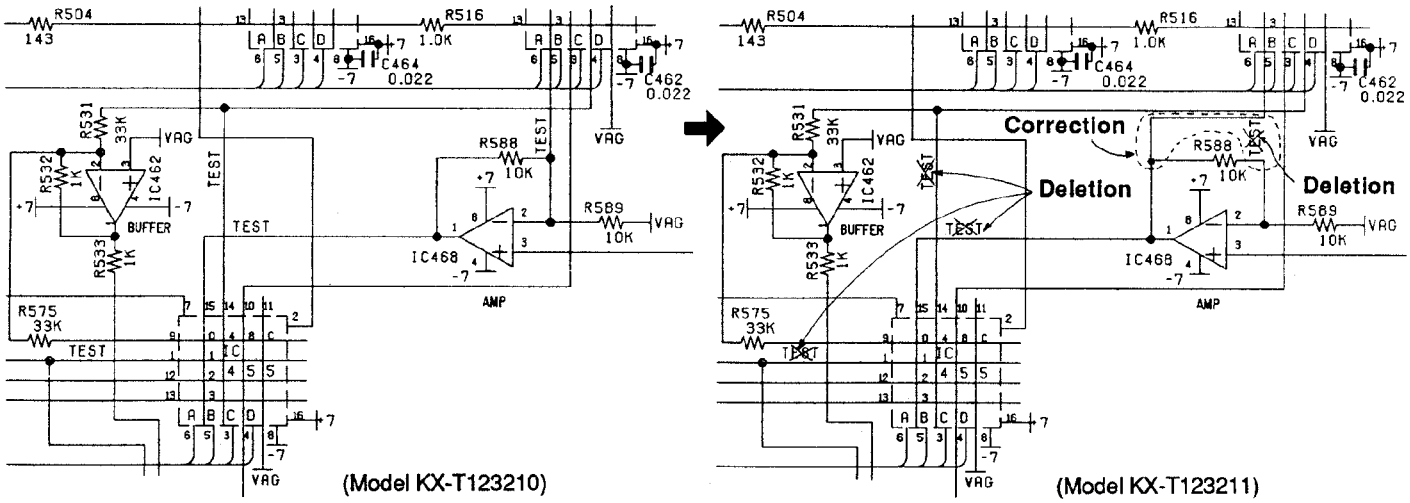
(Model KX-T123211)



(Model KX-T123211)

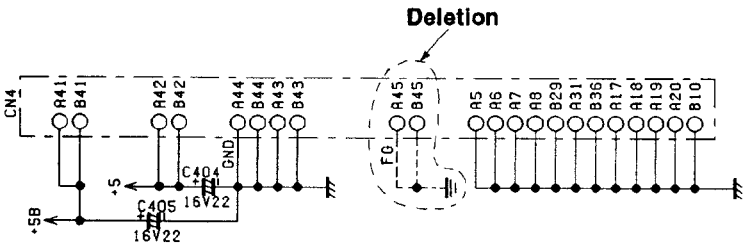
(CROSS POINT SWITCH)





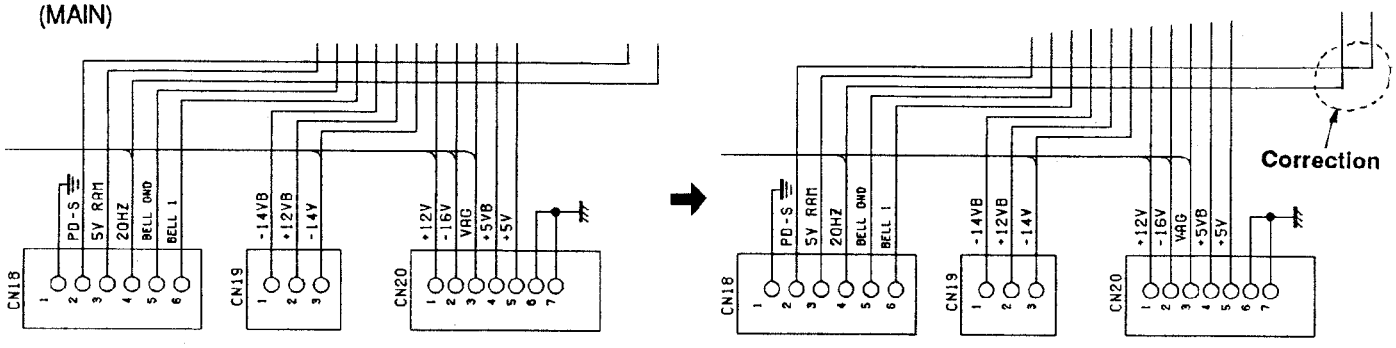
(Model KX-T123210)

(Model KX-T123211)



(Model KX-T123211)

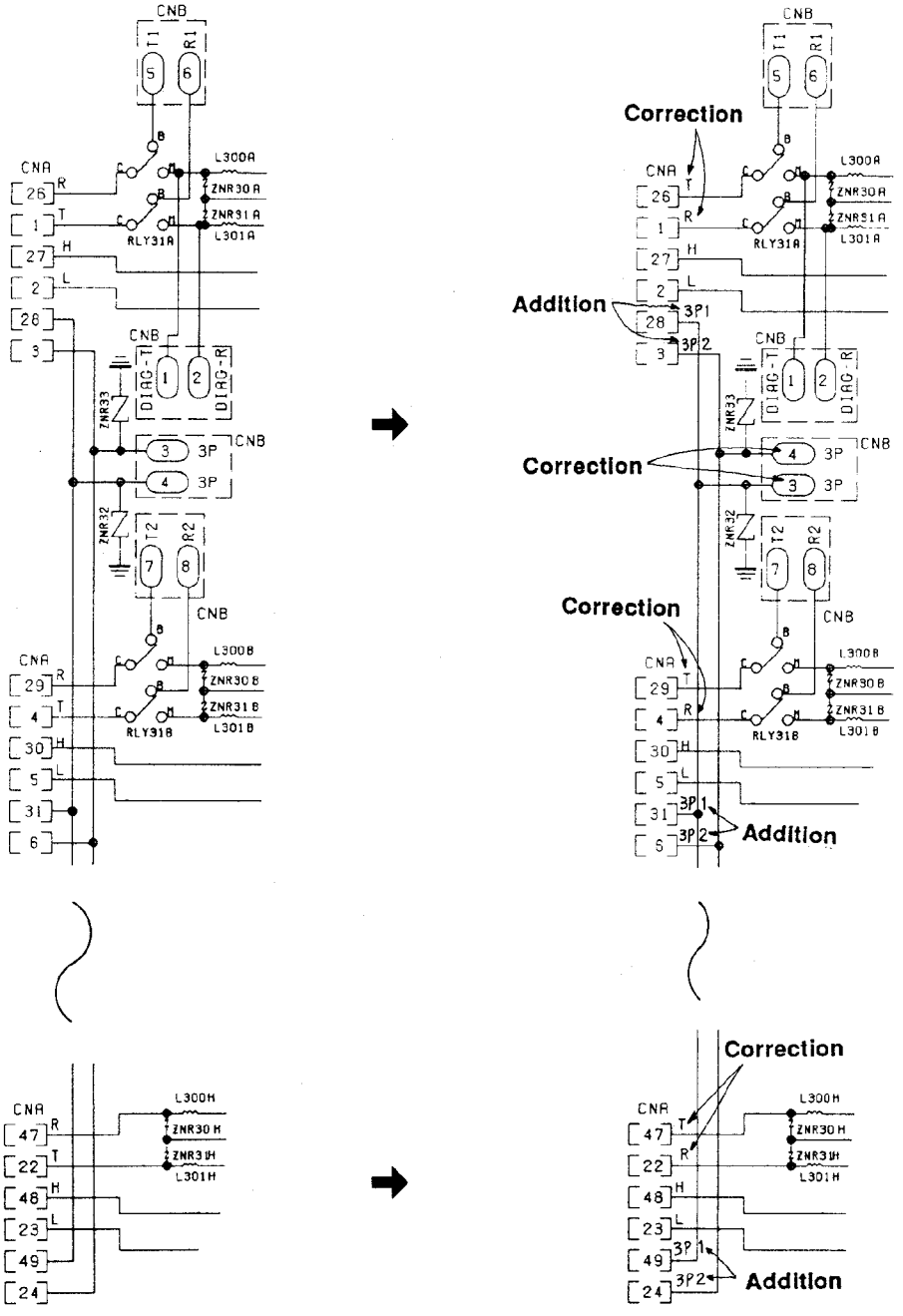
(MAIN)



(Model KX-T123210)

(Model KX-T123211)

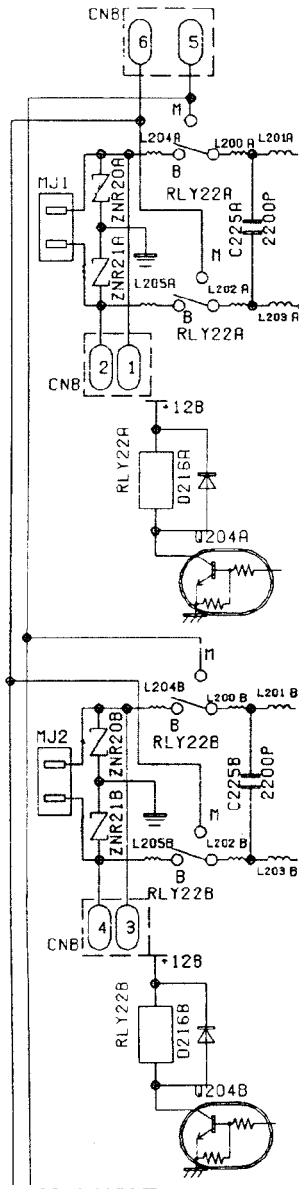
(LC1,2)



(Model KX-T123210)

(Model KX-T123211)

(CO-1)



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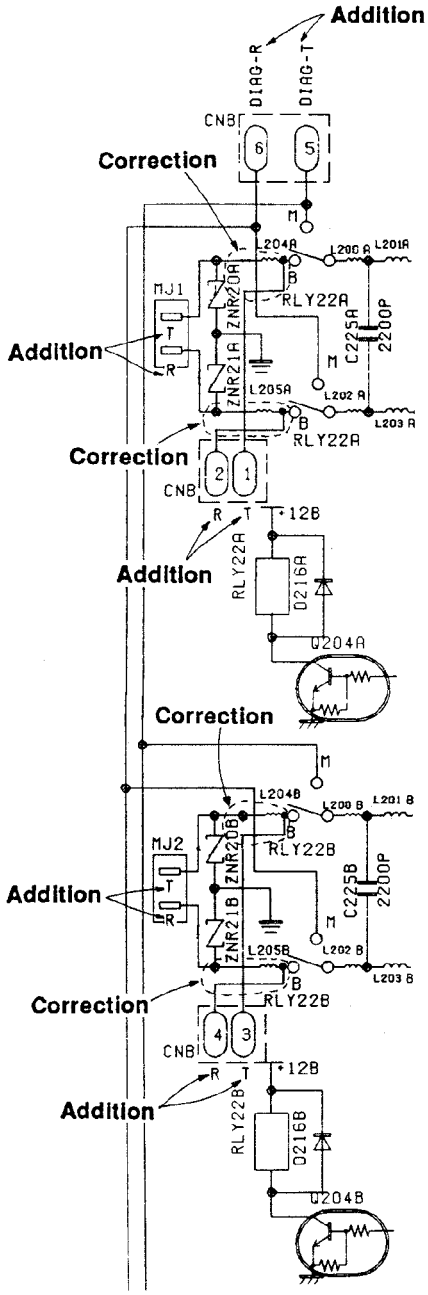
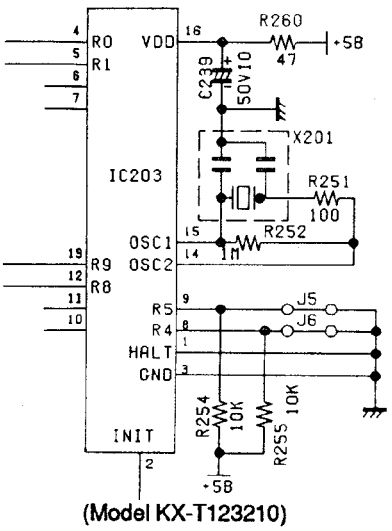


(Model KX-T123211)

(CO-2)



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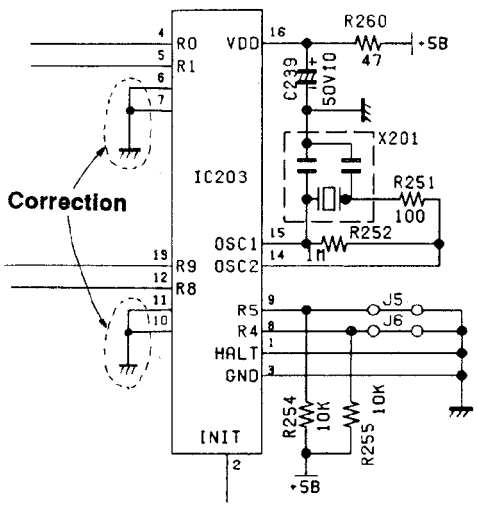
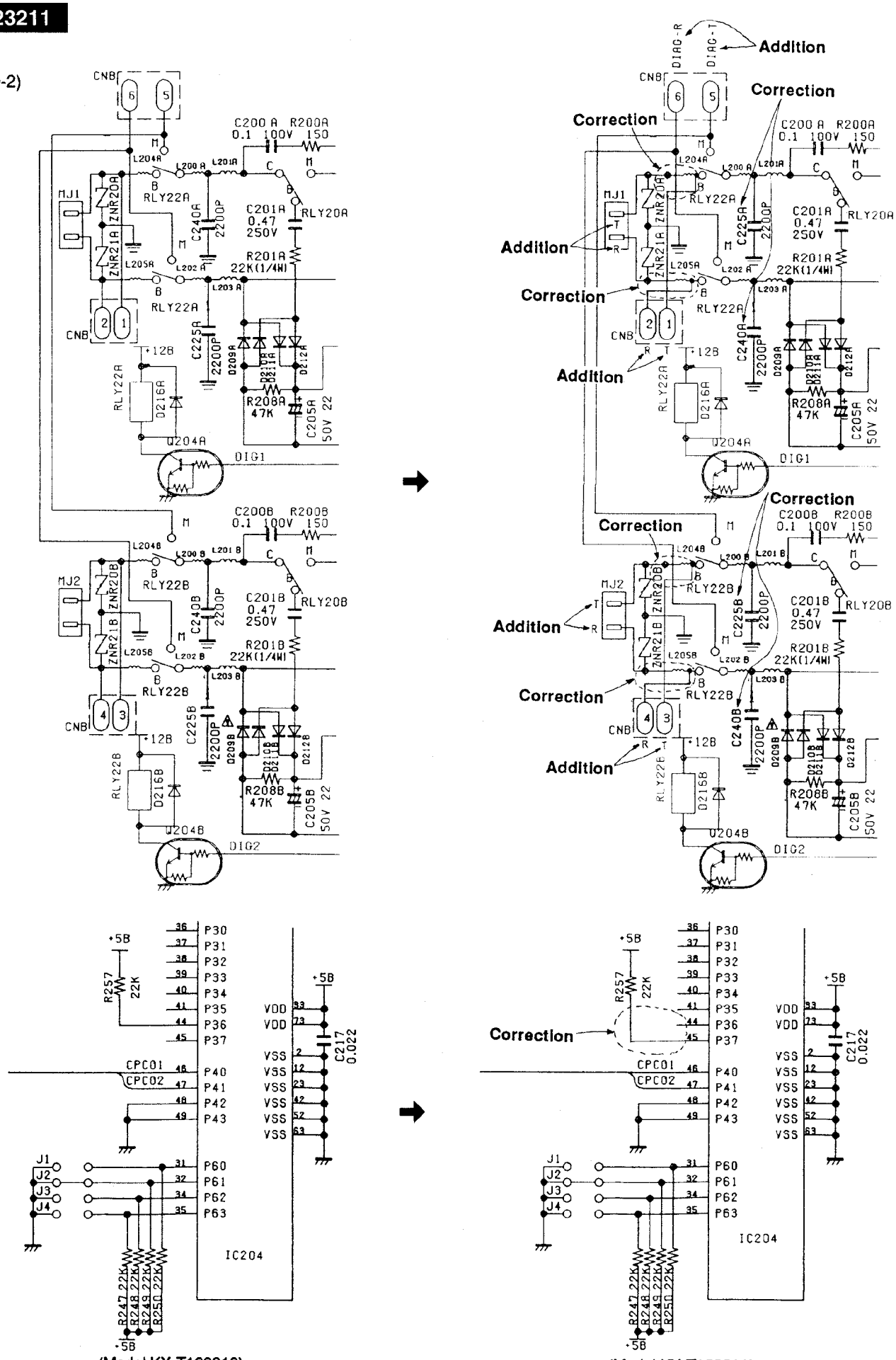


(Model KX-T123211)

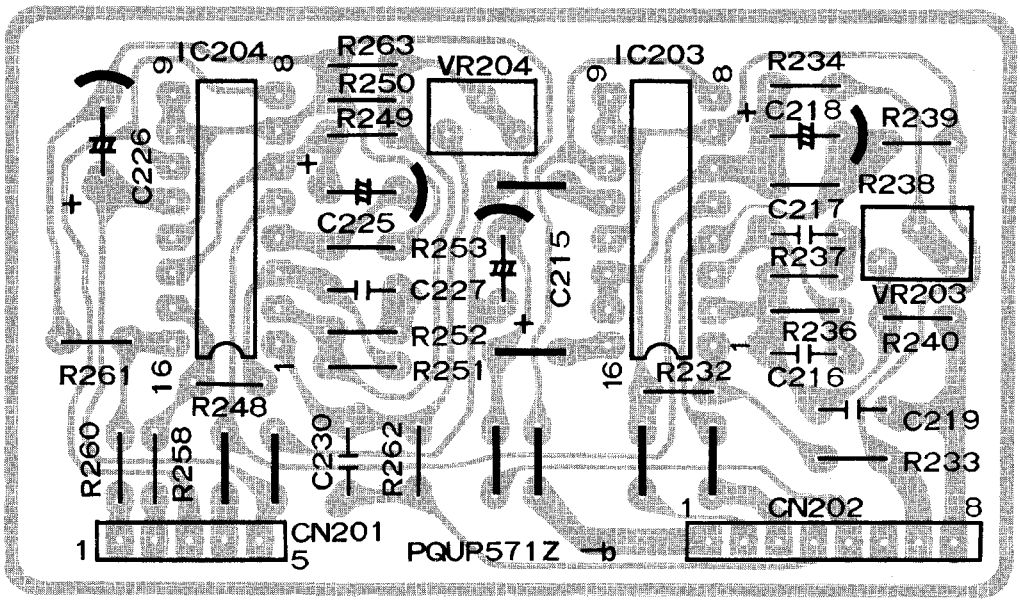
(CO-2)



(Model KX-T123210)

(Model KX-T123211)

(COMPONENT VIEW)



(Model KX-T123211)

■ VOLTAGE OF ICs AND TRANSISTORS

Notes:

1. DC voltage measurements are taken with oscilloscope from ground line.
2. Waiting condition.
3. Value is V.

1. POWER UNIT

(ICs)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC202	2.4	2.4	2.4	0	3 0	4	0	2	0	0	2	1	0	0.2	0	0
IC203	2.4	2.4	2.5	2.7	3 0	5	0	2	0	0	2	1	0	5	5	0
IC204	2.4	2.4	2.4	0	3 0	5	0	2	0	0	2	1	0	5	12	12

Pin No.	1	2	3	4	5	6	7	8
IC205	---	---	---	-20	-20	-20	---	5

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q202	1	0	---	Q203	0	1	0	Q207	1	0	---	Q208	0	1	0

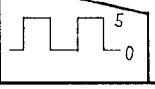
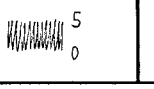
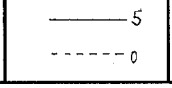
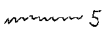
2. POWER

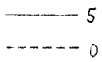
(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q50	0	12	0	Q51	12	-0.4	12	Q52	0	-20	-0.4	Q53	-20	-0.4	-20

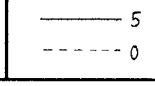
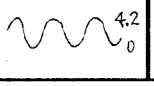
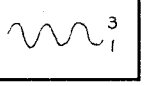
3. CPU

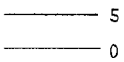
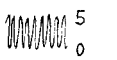
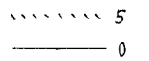
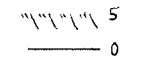
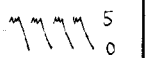
(ICs)

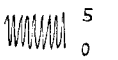
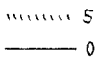
Pin No.	2	3-16,25,28,29,32,35-39	18,21	19	22	24
IC100			0			

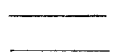
Pin No.	2-15, 17-21, 23, 25-29	22	24
IC101		5	

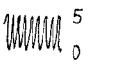
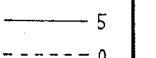
Pin No.	1-13, 15-19, 21, 23-27	22	IC102, IC103 pin 27
IC102 IC103 IC104			

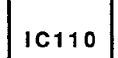
Pin No.	2, 8, 12	4, 5	7	10, 13	11	16	17
IC105			5	0	5		

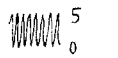
Pin No.	1	2-9	11, 12	13, 16, 17	14, 18	19
IC106						5

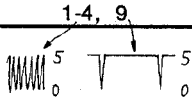
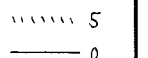
Pin No.	1-9, 11-18	19
IC107		

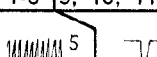
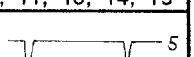
Pin No.	2, 10, 12, 15	3, 4, 9,1 1, 13, 14,
IC108		

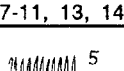
Pin No.	1-9, 11, 12, 14-18	13	19
IC109			

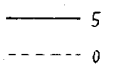
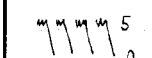
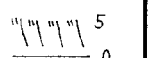
Pin No.	2, 4	3, 5, 7, 9, 11, 13, 15-18
IC110		

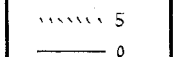
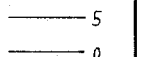
Pin No.	2-9, 11-19
IC111 IC112	

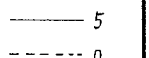
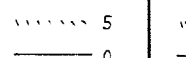
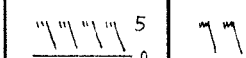
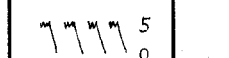
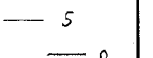
Pin No.	1-4, 9	5	6, 7	14, 15
IC113			5	

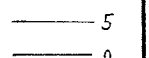
Pin No.	1-6	9, 10, 11, 13, 14, 15
IC114		

Pin No.	1, 3, 5, 7-11, 13, 14, 15, 17, 18-23
IC115	

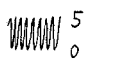
Pin No.	1,20,23,24,30-37,46,51,66,67,68,82,98,99,100	2, 5, 19	6, 10	7, 8, 11
IC116	0			

Pin No.	12, 13	14,16,17,18	22,25,26,47-50,52,57-64,69-77,80-81,84-89,91,92,97
IC116			5

Pin No.	1, 2, 3	4, 5	6, 9, 10	7, 11	16,20,21,23,25	17,18,19,24	22
IC117					5	0	

Pin No.	27
IC117	

Pin NO.	1, 4	2, 13	12
IC118			

Pin NO.	1-6	9-15
IC119		

KX-T123211

Pin No.	1, 2	3, 6, 7	4, 8	9, 15	10, 18	13	17	19, 20	21, 22, 23
IC120							5		

Pin No.	1, 6	3	5	7, 8	9, 12, 25	10, 11, 13	14, 15, 21, 24	17,19	22
IC121		5					0	5	

Pin No.	3,4,5,9,11-14	7	16
IC122	5		

Pin No.	1-4	7	8	10	11	12, 13	15, 16, 17
IC123 | IC125	2						0

Pin No.	1, 2, 3, 15	4-7	8, 10	12, 13	14	16	17
IC127	5					2	

Pin No.	1, 3	2
IC129	5	0

Pin No.	1,2,3,5,6,7
IC131	0

Pin No.	2	3, 6	4, 5	8, 11	9,10,12,13
IC132	2	---	5	12	0

Pin No.	1,4,7,10,13	3,6,8,11,14
IC133	0	5

Pin No.	1, 3, 14	2, 7	4,5,6,8,9,10
IC134	5	0	

Pin No.	1, 11, 12	2, 3, 13	4, 10	5, 8	6, 9
IC135	5	0			

Pin No.	1,2,6,9,10,13,14	3, 7, 8	4	5, 12	11
IC136	5	0			

Pin No.	2, 7, 9	3, 11, 13	5	6	14, 18
IC137	0				5

Pin No.	1,3,6,7,8	2, 10, 14	4	5	9, 11	12	13
IC138	0	5		1	4		

Pin No.	1	2	3	4	5, 6	8, 12	9, 13
IC139			5	0			

Pin No.	1, 4, 5, 7, 13	2,3,10,12,14	8, 9	11
IC140	0	5	5 / 0	0.2

Pin No.	1,3 ,	2
IC141	5	0

Pin No.	2	6, 7	9, 11, 13	15
IC142	0	5	5 / 0	5 / 0

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q100	0	5	0	Q101	0	11	0	Q102	0	11	0	Q103	0	0	5

	E	C	B		E	C	B		E	C	B		E	C	B
Q105	0	0.2	12	Q108	5	0	5	Q109	5	0	5	Q110	0	0	5

	E	C	B
Q111	12	12	0

4. CROSS POINT SWITCH

(ICs)

Pin No.	1-4,25,35,37-40	5, 6, 36	8, 9	12-24	27-34
IC400	0	4.2 / 0	4 / 0	5	0.2

Pin No.	1-6, 8, 9, 19	7	11-18
IC401	5 / 0	4 / 0	0.2

Pin No.	1, 3	2, 4	5	6,7,8,10,12	9	11, 13, 14
IC402	5 / 0	4 / 0	5	0	0.6	5

Pin No.	1,4,9,10,13,15	2	3, 6	7	8
IC403	5	5 / 0	4.2 / 0	0	4

Pin No.	1-6	11-16	Pin No.	1, 2	3-6	11-16	Pin No.	1, 2, 3	4	5, 6	11-16
IC406	0	-7	IC407	0	5	-7	IC408	5	0	5	-7

Pin No.	1,2,3	4	5	6	11-16	Pin No.	1,2,12,13-21	3,22	4-9
IC409	5	0	4	0	-7	IC410 | IC437	0	7	6

Pin No.	2,17,18,20,21	3	4-9	Pin No.	1, 9-15	2-6	Pin No.	1,7,10-15	2-9
IC438 | IC445	0	7	6	IC447 IC451 IC448 IC453 IC450 IC454	0	6	IC456	0	6

Pin No.	1,2,3,5,6,7	Pin No.	1-4,8,9,11	5	6, 12	10	13
IC461 IC468 | IC469 IC466	0	IC467	4	4	-7	5	6.4

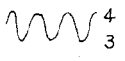
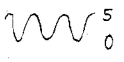
(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q400	---	7	0	Q401	0	0	---	Q402	4	7	5	Q404	5	5	0

5. LC1,2

(ICs)

Pin No.	1,3,5,17	4,19,21,22,34-41,43-50,73	6-11	13	14,16,24-31,51,53,64,65,80	15	20
IC300	4	5	0.2	4.2	0	4.2	1

Pin No.	75	76
IC300		

Pin NO.	1,3,4,6,8,9,11,13	2,5,10,12	Pin No.	1,2,3,5-9,11,19	4,12	13-18
IC301 IC302	0	5	IC303	5	4	0.2

Pin No.	1,3,9	2,4,5,8,11,12	6, 10	13	Pin No.	3-9,11,13,15	12,14,16,17
IC304	5	0	4.2	1	IC305	5	4

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q300A | Q300H	12	12	12	Q301A | Q301H	12	12	12	Q302A | Q302H	-14	---	-14	Q303A | Q303H	-14	-14	-14

	E	C	B		E	C	B		E	C	B		E	C	B
Q304A | Q304H	---	5	---	Q305A | Q305H	0	5	0	Q306A | Q306H	5	0	5	Q307A | Q307H	0	12	0

	E	C	B		E	C	B
Q311A Q311B	0	12	5	Q312A Q312B	12	0	12

6. CO-1,2

(ICs)

Pin No.	1,2,3,5,6,7	Pin No.	1, 9, 16	2,3,6,7,8,10,11,14,15
IC200A IC201A | | IC200D IC201D	0	IC202A | IC202D	5	0

Pin No.	1,2,3,8,9,12,13	4, 5, 16	14	15
IC203	0	5		

Pin No.	1,6,7,8,10,15 16,17,19,46,47	4,5,9,11,13,14,18,19,30,31 32,34,35,45,70,71,72,74,75	65, 66, 67	68, 69, 76	77-80
IC204	0	5	4.5 0	5 0	4 0

Pin No.	1	2-6,8,9	7	11, 17, 18	12-16
IC205	5 0.4	5 0	4 0.4	5 0	0

Pin No.	1, 4, 10	2, 5, 9	3, 6, 8	11, 12, 13
IC206	5	5 0.4	4.5 0	0

Pin No.	1,3,5,11	2,4,6,10	8	12	13
IC207	5 0	4 0	5	0	5

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B
Q202A | Q202D	0	12	0	**Q203A | Q203D**	0	12	0	**Q204A | Q204D**	0	12	0

■ IC/IO DATA

Explanation of ICs (Addition)

1. IC116 . . . . . This IC is for 8-bit expansion I/O ports and has nine 8-bit general-purpose I/O ports.

2. IC104 . . . . . This IC is for 8-bit expansion I/O ports and has six 8-bit general-purpose I/O ports and one 4-bit input port.

3. IC300 . . . . . This IC has: (1) one 8-bit input port
   (2) one 8-bit output port
   (3) 8-channel input and output ports for extension data communication
   (4) 4 output ports (BR0–BR3) for noise control for the doorphone 2 channel and the external paging 2 channel.

4. IC400 . . . . . This 8255-byte IC is used in the extended I/O mode (mode 0).

■ ADJUSTMENT (Model KX-T123211)

OSCILLATION PERIOD ADJUSTMENT

Perform the following adjustment after replacing IC127.

1. Attach the Diagnostic Card (Model KX-T123295) at the KX-T123211. (See Fig. 33)
2. Connect the AC cord to the AC outlet (AC 120V, 60Hz).
3. Set the Power Switch to ON.
4. Set the System Program Switch to "EIA" position. (See Fig. 31)
   (After adjustment, return the System Program Switch to "SET" position.)
5. Reciprocal light the Day and Night Indicators.
6. Connect the KX-T123211 and Parsonal Computer (or Data Terminal) by RS-232C cable.
7. Press the Data Key of the Parsonal Computer (or Data Terminal).

8.

```
; Welcome to KX-T123211 on-site administration
;                    ver 2.0 Panasonic CO., LTD

; ** Jan. 1. 1988 12:00' AM **

; The "HLP" display command informations

;> DIG
```

Picture of Parsonal Computer (or Print of Data Terminal)

9. Input the DIG and press the Return Key.

10.

```
;>DIG

; Diagnostic mode start

; ** Jan. 1. 1988 12:00' AM **

;D>PRO
```

Picture of Parsonal Computer (or Print of Data Terminal)

11. Input the PRO and press the Return Key.
12. Connect the frequency counter. (See Fig. 32)
13. Set the frequency counter to "PERIOD" position.
14. Adjust VC100 for a reading of ( ) msec on the frequency counter.

Room temperature for adjusting (°C)	Period value (msec)	Room temperature for adjusting (°C)	Period value (msec)
14~14.9	15.624943 (±0.00001)	20~20.9	15.624880 (±0.00001)
15~15.9	15.624933 (±0.00001)	21~21.9	15.624876 (±0.00001)
16~16.9	15.624922 (±0.00001)	22~27.9	15.624870 (±0.00001)
17~17.9	15.624910 (±0.00001)	28~28.9	15.624876 (±0.00001)
18~18.9	15.624899 (±0.00001)	29~29.9	15.624880 (±0.00001)
19~19.9	15.624888 (±0.00001)		

15.

```
;>DIG
; Diagnostic mode start
; ** Jan. 1. 1988 12:00' AM **
;D>PRO
END
;D>END
```

Picture of Parsonal Computer
(or Print of Data Terminal)

16. Input the END and press the Return Key.

Notes: RS-232C
(Default Parameter)
1) Baud Rate: 1200 bps 2) Data Length: 7 bits 3) Stop Bit: 1 stop 4) Prity: Mark

However, this can be changed by programming. If it has been changed, follow the procedures according to the changes or execute "System All Clear".
Refer to the connection chart on page 3 for the connection of the RS-232C connector.

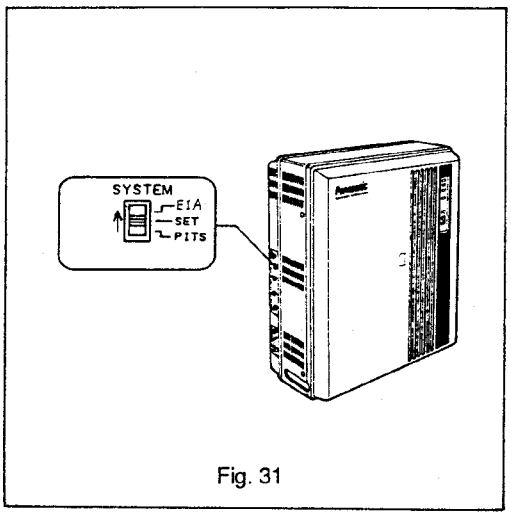


Fig. 31

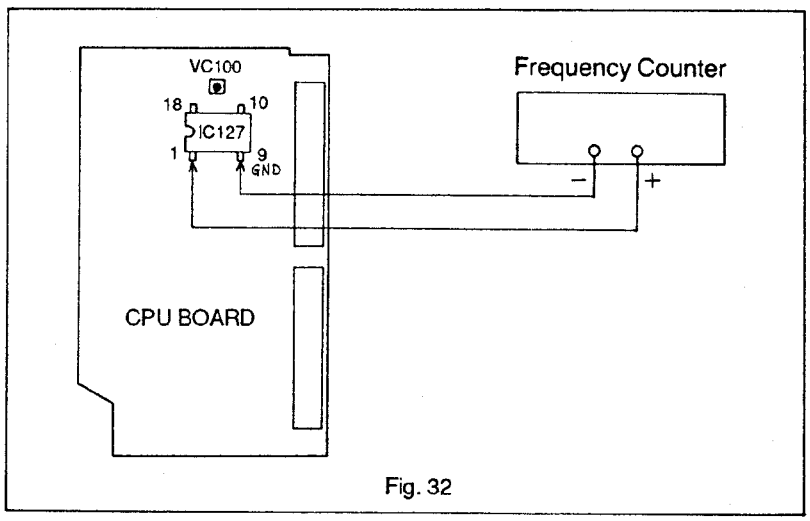


Fig. 32

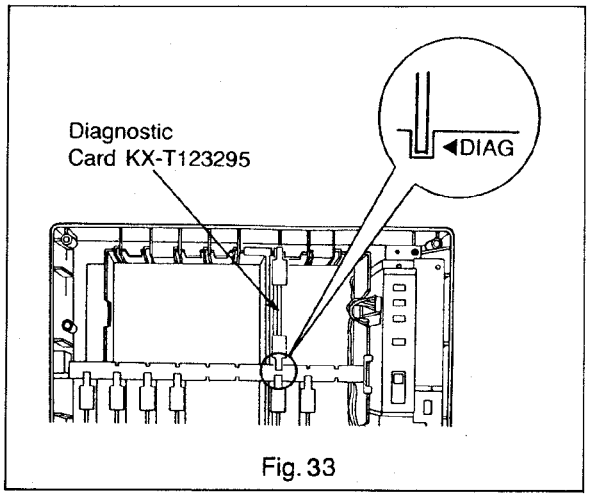


Fig. 33

REPLACEMENT PARTS LIST

Notes: Model KX-T123211

1. The * mark indicates the changes from the KX-T123210.
2. Printed circuit board assembly and power unit with mark (NLA) is no longer available after production discontinuation of the complete set.
3. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
4. The S mark indicates service standard parts and may differ from production parts.
5. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=l000Ω,M=l000kΩ
   All capacitors are in MICRO FARADS(μF) P= μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ER0:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQVP : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polyproplylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		CABINET & ELECTRICAL PARTS		
K1	PQYFT123210M	Front Cabinet Assembly		1
K2	PQYMT123211M	Cabinet Body Assembly	*	1
K2-1	PQGT404Z	Name Plate	*	1
K3	PQYUT123210M	Rear Cover Assembly		1
K4	PQGG52Z	LED Grille		1
K5	PQGK54Z	Indication Plate		1
K6	PQUV66Z	Cover		1
E1	P-01H-F2G1	Ni-Cd Battery		1
E2	PQLT1U9M1A	Bell Transformer		1
E3	RME143Z	Cord Band		3
E4	RME144Z	Cord Band		2
		ACCESSORIES AND PACKING MATERIALS		
A1	PQHE17Z	Mounting Bracket (Curl Plug)	*	3
A2	PQHE5014Z	Mounting Bracket (Screw)	*	3
A3	PQQX5668Z	Installation Manual	*	1
A4	PQQX5669Z	User Guide	*	1
A5	PQQX5670Z	EIA/Remote Programming Manual	*	1
A6	PQQX9266Z	Additional Features for Original Operating Instructions	*	1
A7	PQQX9267Z	Station User Guide	*	1
A8	PQHR133Z	Band	*	2
A9	XSN4x40+28FY	Screw	*	4
P1	PQPK649Z	Packing Case	*	1
P2	PQPN9039Z	Pad Complete		1
P3	PQPE101Z	Pad		1
P4	PQPP118Z	Protection Cover (for Unit)		1

Ref. No.	Part No.	Part Name & Description		Pcs
		MAIN BOARD PARTS		
PCB1	PQWP1T123210	Main P.C. Board Ass'y (NLA)		1
		(DIODES)		
D10,13	LN220RPH	LED		2
D11	LN420YPH	LED		1
D12	LN320GPH	LED		1
		(TRANSFORMERS & COILS)		
T1,2,3	PQLT2D6B	Transformer		3
L1,2,4, L5,7-9, L11,13	PQLQZM2R2M	Choke Coil		9
L3,6	PQLQZM4R7K	Choke Coil	S	2
		(SWITCHES)		
SW	EVQQJH12T	Switch, Reset		1
SW	PQSS3A14Z	Switch, Mode		1
		(RESISTORS)		
R1-14	ERD16TJ103	10k		14
R15-17	ERD16TJ821	820		3
R19-22	ERD16TJ821	820		4
		(JACKS & CONNECTORS)		
JA1,2	PQJJ1E1Y	Jack, Paging		2
JA3	RJJ19Y	Jack, Earphone		1
CN1-3, 6A-6D, 8A-8C	PQJS45S30Z	Connector, 45P		10
CN4	PQJS90S30Z	Connector, 90P		1
CN5A-5D,7A-7C	PQJS8S32Z	Connector, 8P		7
CN9, 10A, 10B,11	PQJS64S30Z	Connector, 64P		4
CN12-CN15	PQJS50S33Z	Connector, 50P		4
CN16	PQJS5R31Z	Connector, 5P	S	1
CN17	PQJS5R32Z	Connector, 5P		1
CN18	PQJS6R31Z	Connector, 6P		1
CN19, CN20	PQJS10R31Z	Connector, 10P		2
CN21	PQJS25P31Z	Socket, EIA		1
CN22	PQJS2L44Z	Connector, 2P		1
J26	PQJP5D13Z	Connector, 5P		1
		CPU BOARD PARTS		
PCB2	PQWP2T123211	CPU P.C. Board Ass'y (NLA)	*	1
		(ICs)		
IC100	PQVIMS80C88	IC		1
IC101/ IC104	PQWIT123211M	IC (ROM Kit)	*	1
IC102	PQVIPD43257C	IC	* S	1
IC103	PQVIHM62256L	IC	S	1
IC105	PQVIMS8C84A2	IC	S	1
IC106	PQVIM7H245P	IC		1
IC107	PQVIM7H245P	IC		1
IC108	PQVIM7H174P	IC		1
IC109	PQVIHD7L640P	IC		1
IC110	PQVIHD7L240P	IC		1
IC111	PQVIM7H373P	IC		1
IC112	PQVIM7H373P	IC		1
IC113	PQVIM7H137P	IC		1
IC114	PQVIHD7L138P	IC		1
IC115	PQVIHD7L154P	IC		1
IC116	PQVI63HB110	IC		1
IC117	PQVIMS8C59A2	IC	S	1
IC118	PQVIM7H107P	IC		1
IC119	PQVITC7H138P	IC	S	1
IC120	PQVIPD71054C	IC	S	1
IC121	PQVIPD71051C	IC	S	1

Ref. No.	Part No.	Part Name & Description		Pcs
IC122	PQVILR4089	IC		1
IC123, IC124, IC125	PQVIMT8870BC	IC		3
IC126	Not Used			
IC127	PQVIMS6242BS	IC		1
IC128	Not Used			
IC129	PQVIPS520C	IC		1
IC130	Not Used			
IC131	PQVINJM4558D	IC		1
IC132	PQVIHD75188P	IC		1
IC133	PQVIHD75189P	IC		1
IC134	PQVIM7H32P	IC		1
IC135	PQVIM7H02P	IC		1
IC136	PQVITC7H00P	IC	S	1
IC137	PQVITC7H04P	IC	S	1
IC138	PQVIHD7LS04P	IC		1
IC139	PQVITC7H04P	IC	S	1
IC140	PQVITC7H04P	IC	S	1
IC141	PQVIPS520C	IC		1
IC142	PQVIBU3140	IC		1
		(TRANSISTORS)		
Q100-Q103	DTC124EA	Transistor (Si)		4
Q104	Not Used			
Q105	2SC2021	Transistor (Si)		1
Q106	Not Used		*	
Q107	Not Used		*	
Q108	DTA124EA	Transistor (Si)		1
Q109	DTA124EA	Transistor (Si)		1
Q110	DTC124EA	Transistor (Si)		1
Q111	DTA143XA	Transistor (Si)		1
		(DIODES)		
D100	MA4091	Diode (Si)		1
D101	Not Used		*	
D102, 103	Not Used		*	
D104	1SS131	Diode (Si)		1
D105	Not Used			
D106	Not Used			
D107-D115	1SS131	Diode (Si)		9
D116	Not Used			
D117-D121	1SS131	Diode (Si)		5
VD100	PQVD1SV124	Diode (Si)		1
		(TRIMMER)		
VC100	PQCVTZB30B	Trimmer		1
		(COMPONENT COMBINATIONS)		
CA101	PQXF4WB04	Capacitor Array		1
Z108	EXBP84103K	Resistor Array	S	1
		(CRYSTAL OSCILLATORS)		
X100	PQWET123210M	Crystal Oscillator Assembly		1
X101	Not Used			
X102	PQVCX3579H5R	Crystal Oscillator		1
X103	PQVCL3276N4Z	Crystal Oscillator		1
		(THERMISTERS)		
TH100	PQRRTS104U	Thermister		1
TH101	PQRRTS203U	Thermister		1
		(COILS)		
L100-L103	PQLQZM1R5M	Choke Coil		4
L104	PQLQZM2R2M	Choke Coil		1
L105	PQLQZM2R2M	Choke Coil		1

Ref. No.	Part No.	Value		Pcs
		(RESISTORS)		
R68	ERD16TJ220	22		1
R69-72	ERD16TJ103	10k		4
R73	ERD16TJ101	100		1
R74	ERD16TJ221	220		1
R75-77	ERD16TJ151	150		3
R78	ERD16TJ101	100		1
R79-88	ERD16TJ103	10k		10
R89	ERD16TJ104	100k		3
R90,91	ERD16TJ124	120k		2
R92,93	ERD16TJ223	22k		2
R94	ERD16TJ103	10k		1
R95	Not Used		*	
R96	ERD16TJ103	10k		1
R97	Not Used			
R98,99	ERD16TJ103	10k		2
R100	ERD16TJ683	68k		1
R101	ERD16TJ103	10k		1
R102	ERD16TJ103	10k		1
R103-R106	ERD16TJ102	1k		4
R107	ERD16TJ103	10k		1
R108	ERD16TJ103	10k		1
R109	ERD16TJ471	470		1
R110	ERD16TJ472	4.7k		1
R111	ERD16TJ223	22k		1
R112	ERD16TJ683	68k		1
R113	Not Used		*	
R114	Not Used		*	
R115	ERD16TJ223	22k		1
R116-R119	ERD16TJ103	10k		4
R120-R122	ERD16TJ223	22k		3
R123-R140	ERD16TJ103	10k		18
R141-R146	ERD16TJ102	1k		6
R147-R152	ERD16TJ103	10k		6
R153-R156	ERD16TJ102	1k		4
R157-R159	ERD16TJ103	10k		3
R160-R163	ERD16TJ183	18k		4
R164	ERD16TJ103	10k		1
R165	ERD16TJ184	18k		1
R166	ERD16TJ183	18k		1
R167	ERD16TJ394	390k		1
R168	ERD16TJ103	10k		1
R169	ERD16TJ183	18k		1
R170	ERD16TJ103	10k		1
R171	ERD16TJ333	33k		1
R172-R175	ERD16TJ103	10k		4
R176	ERD16TJ154	150k		1
R177	ERD16TJ105	1M		1
R178	ERD16TJ223	22k		1
R179	ERD16TJ223	22k		1
R180	ERD16TJ472	4.7k		1
R181	ERD16TJ104	100k		1
R182	ERD16TJ333	33k		1
R183	ERD16TJ334	330k		1
R184	ERD16TJ104	100k		1
R185	ERD16TJ333	33k		1
R186	ERD16TJ334	330k		1
R187	ERD16TJ104	100k		1
R188	ERD16TJ333	33k		1
R189	ERD16TJ334	330k		1
R190-R199	ERD16TJ103	10k		10

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		(CAPACITORS)		
C100	ECEA1HU4R7	4.7		1
C101	ECEA1HU100	10	S	1
C102	Not Used			
C103	ECEA1HU100	10	S	1
C104	ECEA1HU100	10	S	1
C105	ECEA1CSS102	1000		1
C106	ECEA1HN3R3S	3.3		1
C107-C109	ECEA1HU100	10	S	3
C110	ECEA1EU470	47	S	1
C111	ECEA1EU470	47	S	1
C112-C119	Not Used			
C120	ECQV1H104JZ	0.1		1
C121	ECQV1H104JZ	0.1		1
C122	Not Used			
C123	Not Used			
C124	ECCD1H150JC	150P		1
C125	ECCD1H150JC	150P		1
C126	Not Used			
C127	Not Used			
C128	Not Used			
C129	ECQM1H472JV	0.0047		1
C130	ECFD1C104KD	0.1		1
C131	ECQV1H104JZ	0.1		1
C132	ECFD1C104KD	0.1		1
C133	ECQV1H104JZ	0.1		1
C134	ECFD1C104KD	0.1		1
C135	ECQV1H104JZ	0.1		1
C136	Not Used			
C137	Not Used			
C138	ECFD1C104KD	0.1		1
C139	ECKD1H103KB	0.01		1
C140	Not Used			
C141	ECKD1H103KB	0.01		1
C142	ECKD1H102JA	0.001		1
C143	ECKD1H102JA	0.001		1
C144-C149	Not Used			
C150-C153	ECKD1H223MD	0.022		4
C154	Not Used			
C155	ECKD1H223MD	0.022		1
C156	ECKD1H223MD	0.022		1
C157	Not Used			
C158-C161	ECKD1H223MD	0.022		4
C162-C165	Not Used			
C166-C175	ECKD1H223MD	0.022		10
C176	Not Used			
C177	ECEA1EU470	47	S	1
C178	Not Used			
C179	ECKD1H223MD	0.022		1
C180	Not Used			
C181	ECKD1H223MD	0.022		1
C182	Not Used			
C183	ECKD1H223MD	0.022		1
C184	ECKD1H223MD	0.022		1
C185-C189	Not Used			
C190	ECKD1H223MD	0.022		1
C191	ECKD1H223MD	0.022		1
C192-C196	Not Used			
C197	ECCD1H150JC	15P		1
C198	ECCD1H150JC	15P		1
C199	ECEA1EU470	47		1
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Palstic Parts, Latch		2
3	PQME52Z	Plastic Parts, Stopper		4
CNA	PQJP14D49Z	Connector, 14P		1
CN1,2	PQJP45S30Z	Connector, 45P		2

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		CROSS POINT SWITCH BOARD PARTS		
PCB3	PQWP3T123210	Cross Point Switch P.C. Board Ass'y (NLA)		1
		(ICs)		
IC400	PQVIPD71055C	IC	S	1
IC401	PQVIHD7L640P	IC		1
IC402	PQVIHD7LS04P	IC		1
IC403	PQVIHD7LS08P	IC		1
IC404	AN78L07	IC		1
IC405	AN79L07	IC		1
IC406-IC409	PQVITD62706P	IC		4
IC410-IC445	PQVIM402101P	IC		36
IC446	Not Used			
IC447	PQVIPD22100C	IC	S	1
IC448	PQVIPD22100C	IC	S	1
IC449	Not Used			
IC450	PQVIPD22100C	IC	S	1
IC451	PQVIPD22100C	IC	S	1
IC452	Not Used			
IC453-IC456	PQVIPD22100C	IC	S	4
IC457-IC460	Not Used			
IC461-IC466	PQVINJM4558D	IC		6
IC467	PQVIPD4066BC	IC	S	1
IC468	PQVINJM4558D	IC		1
IC469	PQVINJM4558D	IC		1
		(TRANSISTORS)		
Q400	2SC2021	Transistor (Si)		1
Q401	2SC2878	Transistor (Si)		1
Q402	DTC124EA	Transistor (Si)		1
Q403	Not Used	Transistor (Si)		
Q404	DTA124EA	Transistor (Si)		1
		(DIODES)		
D400-D435	1SS131	Diode (Si)		36
D436	MA4047	Diode (Si)		1
D437	MA4047	Diode (Si)		1
D438	1SS131	Diode (Si)		1
D439	1SS131	Diode (Si)		1
		(COMPONENT COMBINATIONS)		
Z400-Z403	EXBP86103K	Resistor Array	S	4
		(TRANSFORMER)		
T400	ETA14Y85AY	Transformer		1
		(RESISTORS)		
R400	ERD16TJ103	10k		1
R401	ERD16TJ103	10k		1
R402	Not Used			
R403	ER016CKF1180	118		1
R404-R424	ERD16TJ103	10k		21
R425-R427	ERD16TJ472	4.7k		3
R428	ERD16TJ223	22k		1
R429	Not Used			
R430-R460	ER016CKF1180	118		31
R461-R492	ER016CKF1021	1.02k		32
R493-R504	ER016CKF1430	143		12
R505-R516	ER016CKF1001	1k		12

Ref. No.	Part No.	Value		Pcs
R517	ER016CKF1151	1.15k		1
R518	ER016CKF1151	1.15k		1
R519	Not Used			
R520	Not Used			
R521	ER016CKF3401	3.4k		1
R522	ER016CKF3401	3.4k		1
R523-R527	ER016CKF3921	3.92k		5
R528	ERD16TJ104	100k		1
R529	ERD16TJ223	22k		1
R530	ERD16TJ333	33k		1
R531	ERD16TJ333	33k		1
R532	ERD16TJ102	1k		1
R533	ERD16TJ102	1k		1
R534	ERD16TJ222	2.2k		1
R535	ERD16TJ223	22k		1
R536	ERD16TJ333	33k		1
R537	ERD16TJ222	2.2k		1
R538	ERD16TJ223	22k		1
R539	ERD16TJ333	33k		1
R540	ERD16TJ332	3.3k		1
R541	ERD16TJ472	4.7k		1
R542	ERD16TJ222	2.2k		1
R543	ERD16TJ472	4.7k		1
R544	ERD16TJ334	330k		1
R545	ERD16TJ333	33k		1
R546	ERD16TJ103	10k		1
R547	ERD16TJ153	15k		1
R548	ERD16TJ103	10k		1
R549	ERD16TJ681	680		1
R550	ERD16TJ681	680		1
R551	ERD16TJ332	3.3k		1
R552	ERD16TJ683	68k		1
R553	ERD16TJ823	82k		1
R554	ERD16TJ224	220k		1
R555	ERD16TJ474	470k		1
R556	ERD16TJ563	56k		1
R557	ERD16TJ184	180k		1
R558	ERD16TJ823	82k		1
R559	ERD16TJ683	68k		1
R560	ERD16TJ823	82k		1
R561	ERD16TJ224	220k		1
R562	ERD16TJ823	82k		1
R563	ERD16TJ474	470k		1
R564	ERD16TJ184	180k		1
R565	ERD16TJ563	56k		1
R566-R569	Not Used			
R570	ERD16TJ102	1k		1
R571	ERD16TJ102	1k		1
R572-R574	ERD16TJ104	100k		3
R575	ERD16TJ332	3.3k		1
R576	ERD16TJ102	1k		1
R577-R583	Not Used			
R584	ERD16TJ563	56k		1
R585	Not Used			
R586	ERD16TJ183	18k		1
R587	Not Used			
R588	ERD16TJ103	10k		1
R589	ERD16TJ103	10k		1
		(CAPACITORS)		
C400	Not Used			
C401	Not Used			
C402	ECEA1EU470	47	S	1
C403	ECEA1EU470	47	S	1
C404	ECEA1HU220	22	S	1
C405	ECEA1HU220	22	S	1
C406	ECEA1HN2R2S	2.2		1
C407	ECEA1EU101	100	S	1
C408	Not Used			
C409	ECQM1H222JV	0.0022		1
C410	ECKD1H223MD	0.022		1
C411	Not Used			
C412	Not Used			

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C413	ECKD1H223MD	0.022	1
C414	Not Used		
C415	Not Used		
C416	Not Used		
C417	ECKD1H102JA	0.001	1
C418	Not Used		
C419	Not Used		
C420	ECQM1H102JV	0.001	1
C421	ECQM1H102JV	0.001	1
C422-C426	ECQV1H273JZ	0.027	5
C427	ECKD1H102JA	0.001	1
C428	ECKD1H332KB	0.0033	1
C429	ECKD1H102JA	0.001	1
C430	ECKD1H332KB	0.0033	1
C431	ECFD1C104KD	0.1	1
C432	ECFD1C104KD	0.1	1
C433	ECKD1H332KB	0.0033	1
C434	ECQV1H333JZ	0.033	1
C435	Not Used		
C436	Not Used		
C437	Not Used		
C438-C441	ECQM1H222JV	0.0022	4
C442	ECFD1C104KD	0.1	1
C443	ECQV1H683JZ	0.068	1
C444	ECFD1C104KD	0.1	1
C445	ECQV1H473JZ	0.047	1
C446	Not Used		
C447	ECKD1H223MD	0.022	1
C448	ECKD1H223MD	0.022	1
C449	Not Used		
C450	ECKD1H103KB	0.01	1
C451	ECKD1H223MD	0.022	1
C452	Not Used		
C453-C456	ECKD1H223MD	0.022	4
C457	Not Used		
C458-C464	ECKD1H223MD	0.022	7
C465	ECEA1CSS102	1000	1
C466-C469	Not Used		
C470	ECKD1H102JA	0.001	1
C471	ECKD1H102JA	0.001	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CN3	PQJP45S30Z	Connector, 45P	1
CN4	PQJP90S30Z	Connector, 90P	1
		LC (1,2) BOARD PARTS	
PCB4	KX-T123270	LC P.C. Board Ass'y (NLA) (Supply by business route)	2
		(ICs)	
IC300	PQVI671152F	IC	1
IC301	PQVIHD7LS08P	IC	1
IC302	PQVIHD7LS08P	IC	1
IC303	PQVIHD7L640P	IC	1
IC304	PQVIHD7LS04P	IC	1
IC305	PQVIHD7L244P	IC	1
		(TRANSISTORS)	
Q300A-Q300H	2SA937	Transistor (Si)	8
Q301A-Q301H	2SB644	Transistor (Si) *	8
Q302A-Q302H	2SD639	Transistor (Si) *	8

Ref. No.	Part No.	Part Name & Description	Pcs
Q303A-Q303H, Q304A-Q304H, Q305A-Q305H	2SC2021	Transistor (Si)	24
Q306A-Q306H	UN1122	TRansistor (Si)	8
Q307A-Q307H	DTC124EA	TRansistor (Si)	8
Q308A-Q308H	Not Used		
Q309A-Q309H	Not Used		
Q310A-Q310H	Not Used		
Q311A	DTC124EA	Transistor (Si)	1
Q311B	DTC124EA	Transistor (Si)	1
Q312A	DTA124EA	Transistor (Si)	1
Q312B	DTA124EA	Transistor (Si)	1
		(DIODES)	
D300A-D300H, D301A-D301H	MA4047	Diode (Si)	16
D302A-D302H,	1SS131	Diode (Si)	8
D303A-D303H, D304A-D304H	Not Used		
D305A-D305H	1SS131	Diode (Si)	8
D306A-D306H	Not Used		
D307A-D307H	MA4056	Diode (Si)	8
D308A-D308H, D309A-D309H, D310A-D310H, D311A-D311H, D312A-D312H D313, D314A, D314B	1SS131	Diode (Si)	43
		(VARISTORS)	
ZNR 30A-ZNR 30H, ZNR 31A-ZNR 31H, ZNR32, ZNR33	ERZC03DK241	Varistor	18
		(THERMISTORS)	
PTH 30A-PTH 30H	PQRPAR8R2M	Thermistor	8

Ref. No.	Part No.	Value, Part Name and Description		Pcs
		(COMPONENT COMBINATIONS)		
Z300	EXBP88472K	Resistor Array	S	1
Z301	PQRS8B8102J	Resistor Array		1
Z302	EXBP84103K	Resistor Array	S	1
		(PHOTO ELECTRIC TRANSDUCERS)		
PC 300A-PC 300H	PQVIPC817K	Photo Coupler	S	8
		(CRYSTAL OSCILLATOR)		
X300	PQVCX4000N8Z	Crystal Oscillator		1
		(TRANSFORMERS)		
T300A-T300H	ETA14Y85AY	Transformer		8
T301A-T301H	ETE13K38AY	Transformer		8
		(COILS)		
L300A-L300H, L301A-L301H,	PQLQZM2R2M	Choke Coil		16
		(RELAYS)		
RLY 30A-RLY 30H	PQSL41Z	Relay	*	8
RLY31A	PQSL49Z	Relay	⚠	1
RLY31B	PQSL49Z	Relay	⚠	1
		(RESISTORS)		
R300A-R300H	ERD16TJ330	33		8
R301A-R301H	ERD16TJ220	22		8
R302A-R302H, R303A-R303H	ERD16TJ682	6.8k		16
R304A-R304H	ERD16TJ220	22		8
R305A-R305H	ERD16TJ330	33		8
R306A-R306H	PQRD2TJ102	1k		8
R307A-R307H	ERD16TJ153	15k		8
R308A-R308H	ERD16TJ123	12k		8
R309A-R309H	ERD16TJ101	100		8
R310A-R310H	ERD16TJ473	47k		8
R311A-R311H, R312A-R312H	ERD16TJ121	120		16
R313A-R313H	ERD16TJ222	2.2k		8
R314A-R314H	ERD16TJ221	220		8
R315A-R315H	ERD16TJ472	4.7k		8

Ref. No.	Part No.	Value, Part Name & Description		Pcs
R316A-R316H, R317	ERD16TJ103	10k		9
R318	Not Used			
R319	ERD16TJ472	4.7k		1
R320	Not Used			
R321	ERD16TJ472	4.7k		1
R322	Not Used			
R323	ERD16TJ103	10k		1
R324	Not Used			
R325	Not Used			
R326	ERD16TJ105	1M		1
R327-R331	ERD16TJ103	10k		5
		(CAPACITORS)		
C301A-C301H	ECEA1HU3R3	3.3	S	8
C302A-C302H	ECEA1HU2R2	2.2		8
C303A-C303H	ECEA1HU3R3	3.3	S	8
C304A-C304H	ECEA1HN4R7S	4.7		8
C305A-C305H, C306A-C306H	ECEA1HU010	1		16
C307A-C307H, C308A-C308H	ECKD1H103KB	0.01		16
C309	ECCD1H221J	220P		1
C310	ECEA1HU100	10		1
C311	Not Used			
C312	Not Used			
C313	ECKD1H223MD	0.022		1
C314	Not Used			
C315	Not Used			
C316	Not Used			
C317	PQCBC1C103MY	0.01		1
C318	ECEA1EU101	100		1
C319	Not Used			
C320	ECEA1EU470	47	S	1
C321	ECEA1EU101	100		1
C322	ECEA1EU101	100		1
C323	Not Used			
C324	Not Used			
C325	ECCD1H220JC	22P		1
C326	ECCD1H220JC	22P		1
C327A-C327H, C328A-C328H	ECKD1H471KB	470P		16
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Plastic Parts, Latch		2
CNA	PQJS50Q30Y	Socket, 50P		1
CNB	PQJP8S30Z	Connector, 8P		1
CNC	PQJP45S30Z	Connector, 45P		1

Ref. No.	Part No.	Part Name & Description		Pcs
		CO-1 BOARD PARTS		
PCB5	KX-T123280	CO-1 P.C. Board Ass'y (NLA) (Supply by business route)		1
		(ICs)		
IC200A-IC200D, IC201A-IC201D	PQVINJM4558D	IC		8
IC202A-IC202D	PQVINJ7301D	IC		4
IC203	PQVIBU 3149	IC		1
IC204	PQVI672191F	IC		1
IC205	PQVIHD7L640P	IC		1
IC206	PQVIHD7LS08P	IC		1
IC207	PQVIHD7LS04P	IC		1
		(TRANSISTORS)		
Q200A-Q200D	2SC2590	Transistor (Si)	⚠ S	4
Q201A-Q201D	Not Used			
Q202A-Q202D, Q203A-Q203D Q204A-Q204D	DTC124EA	Transistor (Si)		12
		(DIODES)		
D201A-D201D	MA4150	Diode (Si)	⚠	4
D202A-D202D	Not Used			
D203A-D203D	PQVDS1YB40F1	Diode (Si)	⚠	4
D204A-D204D, D205A-D205D	MA4047	Diode (Si)		8
D206A-D206D	1SS131	Diode (Si)		4
D207A-D207D	Not Used			
D208A-D208D	PQVDSV03YSW	Diode (Si)	⚠	4
D209A-D209D, D210A-D210D, D211A-D211D, D212A-D212D	1SS131	Diode (Si)	⚠	16
D213A-D213D	Not Used			
D214A-D214D, D215A-D215D, D216A-D216D	1SS131	Diode (Si)		12
		(PHOTO ELECTRIC TRANSDUCERS)		
PC200A-PC200D	PQVIPC817K	Photo Coupler	⚠ S	4
PC201A-PC201D	PQVITLP521	Photo Coupler	⚠	4

Ref. No.	Part No.	Value, Part Name & Description	Pcs
		(VARISTORS)	
ZNR 20A-ZNR 20D, ZNR 21A-ZNR 21D	PQVDDSS401M	Varistor ⚠	8
ZNR 22A-ZNR 22D	ERZC07DK820	Varistor ⚠	4
		(CERAMIC FILTER)	
X201	PQVBFC3584A1	Ceramic Filter	1
		(RELAYS)	
RLY 20A-RLY 20D	PQSL34Z	Relay ⚠	4
RLY 21A-RLY 21D	PQSL63Z	Relay ⚠	4
RLY 22A-RLY 22D	PQSL41Z	Relay ⚠	4
		(TRANSFORMERS)	
T200A-T200D	ETA14Y85AY	Transformer ⚠	4
		(COILS)	
L200A-L200D, L202A-L202D	PQLQZL101K	Choke Coil ⚠	8
L201A-L201D, L203A-L203D	PQLQZK100K	Choke Coil ⚠	8
L204A-L204D, L205A-L205D	PQLQZK220K	Choke Coil	8
		(RESISTORS)	
R200A-R200D	ERD16TJ151	150 ⚠	4
R201A-R201D	ERDS1TJ223	22k ⚠	4
R202A-R202D	ERDS2TJ102	1k ⚠	4
R203A-R203D	ERD16TJ5R6	5.6 ⚠	4
R204A-R204D	ERD16TJ822	8.2k ⚠	4
R205A-R205D	ERD25TJ330	33 ⚠	4
R206A-R206D	ERD16TJ473	47	4
R207A-R207D	ERD16TJ472	4.7k	4
R208A-R208D	ERD16TJ473	47 ⚠	4
R209A-R209D	Not Used		
R210A-R210D, R211A-R211D	ERO16CKF1211	1.21k	8

Ref. No.	Part No.	Value	Pcs
R212A-R212D, R213A-R213D	ERO16CKF1003	100k	8
R214A-R214D	Not Used		
R215A-R215D, R216A-R216D	ERO16CKF1003	100k	8
R217A-R217D	Not Used		
R218A-R218D	ERO16CKF2613	261k	4
R219A-R219D	ERD16TJ102	1k	4
R220A-R220D, R221A-R221D	ERO16CKF1211	1.21k	8
R222A-R222D	Not Used		
R223A-R223D, R224A-R224D, R225A-R225D, R226A-R226D	ERO16CKF1003	100k	16
R227A-R227D	Not Used		
R228A-R228D	ERO16CKF2613	261k	4
R229A-R229D	ERD16TJ391	390	4
R230A-R230D	ERD16TJ152	1.5k	4
R231A-R231D	Not Used		
R232A-R232D	ERD16TJ471	470	4
R233A-R233D	ERD16TJ122	1.2k	4
R234A-R234D	Not Used		
R235A-R235D	ERD16TJ471	470	4
R236A-R236D	ERD16TJ122	1.2k	4
R237A-R237D	ERD16TJ105	1M	4
R238A-R238D	Not Used		
R239A-R239D	ERD16TJ102	1k ⚠	4
R240	Not Used		
R241	Not Used		
R242	Not Used		
R243	ERD16TJ472	4.7k	1
R244	Not Used		
R245A-R245D	ERD16TJ105	1M	4
R246	ERD16TJ103	10k	1
R247-R250	ERD16TJ223	22k	4
R251	ERD16TJ101	100	1
R252	ERD16TJ105	1M	1
R253A-R253D, R254	ERD16TJ103	10k	6
R255	Not Used		
R256	Not Used		
R257	Not Used		
R258	ERD16TJ102	1k	1
R259	Not Used		
R260	ERD16TJ470	47	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs
R261	ERD16TJ184	180k	1
		(CAPACITORS)	
C200A-C200D	ECQE1104KN	0.1	4
C201A-C201D	ECQE2474KF	0.47 ⚠	4
C202A-C202D, C203A-C203D	ECEA1HU220	22 ⚠	8
C204A-C204D	ECQV1H104JZ	0.1	4
C205A-C205D	ECEA1HU220	22 ⚠	4
C206A-C206D	ECKD1H102JA	0.001	4
C207A-C207D, C208A-C208D	ECFD1E683MD	0.068	8
C209A-C209D, C210A-C210D	ECCD1H560JC	56P	8
C211A-C211D	ECFD1E333KD	0.033	4
C212A-C212D	Not Used		
C213A-C213D	ECFD1E183KD	0.018	4
C214A-C214D	Not Used		
C215A-C215D	ECFD1E183KD	0.018	4
C216	Not Used		
C217	ECKD1H223MD	0.022	1
C218	Not Used		
C219	ECKD1H223MD	0.022	1
C220	ECKD1H223MD	0.022	1
C221	ECKD1H223MD	0.022	1
C222	ECKD1H103KB	0.01	1
C223	Not Used		
C224	Not Used		
C225A-C225D	ECKDKC222KB	0.0022 ⚠	4
C226	ECEA1EU101	100	1
C227	Not Used		
C228	ECEA1EU470	47 S	1
C229	ECEA1EU470	47 S	1
C230	ECEA1EU101	100	1
C231	ECEA1CSS102	1000	1
C232	Not Used		
C233-C237	Not Used		
C238A-C238D	ECKD1H103KB	0.01	4
C239	ECEA1HU100	10	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connectro, 45P	1
MJ1-4	PQJJ1TA11Z	Jack ⚠	4

Ref. No.	Part No.	Part Name & Description	Pcs
CO-2 BOARD PARTS			
PCB6	KX-T123281	CO-2 P.C. Board Ass'y (NLA) (Supply by business route)	1
		(ICs)	
IC200A-IC200B, IC201A-IC201B	PQVINJM4558D	IC	4
IC202A	PQVINJ7301D	IC	1
IC202B	PQVINJ7301D	IC	1
IC203	PQVIBU3149	IC	1
IC204	PQVI672191F	IC	1
IC205	PQVIHD7L640P	IC	1
IC206	PQVISN7LS08N	IC	1
IC207	PQVIHD7LS04P	IC	1
		(TRANSISTORS)	
Q200A	2SC2590	Transistor (Si) ⚠ S	1
Q200B	2SC2590	Transistor (Si) ⚠ S	1
Q201A	Not Used		
Q201B	Not Used		
Q202A, Q202B, Q203A, Q203B, Q204A, Q204B	DTC124EA	Transistor (Si)	6
			1
		(DIODES)	
D201A	MA4150	Diode (Si) ⚠	1
D201B	MA4150	Diode (Si) ⚠	1
D202A	Not Used		
D202B	Not Used		
D203A	PQVDS1YB40F1	Diode (Si) ⚠	1
D203B	PQVDS1YB40F1	Diode (Si) ⚠	1
D204A, D204B, D205A, D205B	MA4047	Diode (Si)	4
D206A	1SS131	Diode (Si)	1
D206B	1SS131	Diode (Si)	1
D207A	Not Used		
D207B	Not Used		
D208A	PQVDSV03YSW	Diode (Si) ⚠	1
D208B	PQVDSV03YSW	Diode (Si) ⚠	1
D209A, D209B, D210A, D210B, D211A, D211B, D212A, D212B	1SS131	Diode (Si) ⚠	8
D213A	Not Used		
D213B	Not Used		
D214A, D214B, D215A, D215B, D216A, D216B	1SS131	Diode (Si)	6
		(CERAMIC FILTER)	
X201	PQVBFC3584A1	Ceramic Filter	1
		(PHOTO ELECTRIC TRANSDUCERS)	
PC200A	PQVIPC817K	Photo Coupler ⚠ S	1
PC200B	PQVIPC817K	Photo Coupler ⚠ S	1
PC201A	PQVITLP521	Photo Coupler ⚠	1
PC201B	PQVITLP521	Photo Coupler ⚠	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs
		(VARISTORS)	
ZNR20A	PQVDDSS401M	Varistor ⚠	4
ZNR20B			
ZNR21A			
ZNR21B			
ZNR22A	ERZC07DK820	Varistor ⚠	1
ZNR22B	ERZC07DK820	Varistor ⚠	1
			1
		((RELAYS)	
RLY20A	PQSL34Z	Relay ⚠ S	1
RLY20B	PQSL34Z	Relay ⚠ S	1
RLY21A	PQSL63Z	Relay ⚠	1
RLY21B	PQSL63Z	Relay ⚠	1
RLY22A	PQSL41Z	Relay ⚠	1
RLY22B	PQSL41Z	Relay ⚠	1
		(TRANSFORMERS)	
T200A	ETA14Y85AY	Transformer ⚠	1
T200B	ETA14Y85AY	Transformer ⚠	1
		(COILS)	
L200A, L200B, L202A, L202B	PQLQZL101K	Choke Coil ⚠ S	4
L201A, L201B, L203A, L203B	PQLQZK100K	Choke Coil ⚠ S	4
L204A, L204B, L205A, L205B	PQLQZK220K	Choke Coil	4
		(RESISTORS)	
R200A	ERD16TJ151	150 ⚠	1
R200B	ERD16TJ151	150 ⚠	1
R201A	ERDS1TJ223	22k ⚠	1
R201B	ERDS1TJ223	22k ⚠	1
R202A	ERDS2TJ102	1k ⚠	1
R202B	ERDS2TJ102	1k ⚠	1
R203A	ERD16TJ5R6	5.6 ⚠	1
R203B	ERD16TJ5R6	5.6 ⚠	1
R204A	ERD16TJ822	8.2k ⚠	1
R204B	ERD16TJ822	8.2k ⚠	1
R205A	ERD25TJ330	33 ⚠	1
R205B	ERD25TJ330	33 ⚠	1
R206A	ERD16TJ473	47k	1
R206B	ERD16TJ473	47k	1
R207A	ERD16TJ472	4.7k	1
R207B	ERD16TJ472	4.7k	1
R208A	ERD16TJ473	47k	1
R208B	ERD16TJ473	47k	1
R209A	Not Used		
R209B	Not Used		
R210A, R210B, R211A, R211B	ER016CKF1211	1.21k	4
R212A, R212B, R213A, R213B,	ER016CKF1003	100k	4
R214A	Not Used		
R214B	Not Used		
R215A, R215B, R216A, R216B	ER016CKF1003	100k	4
R217A	Not Used		
R217B	Not Used		
R218A	ER016CKF2613	261k	1
R218B	ER016CKF2613	261k	1
R219A	ERD16TJ102	1k	1
R219B	ERD16TJ102	1k	1

Ref. No.	Part No.	Value	Pcs
R220A, R220B, R221A, R221B	ER016CKF1211	1.21k	4
R222A	Not Used		
R222B	Not Used		
R223A, R223B, R224A, R224B, R225A, R225B, R226A, R226B	ER016CKF1003	100k	8
R227A	Not Used		
R227B	Not Used		
R228A	ER016CKF2613	261k	1
R228B	ER016CKF2613	261k	1
R229A	ERD16TJ391	390	1
R229B	ERD16TJ391	390	1
R230A	ERD16TJ152	1.5k	1
R230B	ERD16TJ152	1.5k	1
R231A	Not Used		
R231B	Not Used		
R232A	ERD16TJ471	470	1
R232B	ERD16TJ471	470	1
R233A	ERD16TJ122	1.2k	1
R233B	ERD16TJ122	1.2k	1
R234A	Not Used		
R234B	Not Used		
R235A	ERD16TJ471	470	1
R235B	ERD16TJ471	470	1
R236A	ERD16TJ122	1.2k	1
R236B	ERD16TJ122	1.2k	1
R237A	ERD16TJ105	1M	1
R237B	ERD16TJ105	1M	1
R239A	ERD16TJ102	1k ⚠	1
R239B	ERD16TJ102	1k ⚠	1
R240A	Not Used		
R240B	Not Used		
R241A	Not Used		
R241B	Not Used		
R242A	Not Used		
R242B	Not Used		
R243	ERD16TJ472	4.7k	1
R244	Not Used		
R245A	ERD16TJ105	1M	1
R245B	ERD16TJ105	1M	1
R246	ERD16TJ103	10k	1
R247, R248, R249, R250	ERD16TJ223	22k	4
R251	ERD16TJ101	100	1
R252	ERD16TJ105	1M	1
R253A	ERD16TJ103	10k	4
R253B, R254, R255			
R256	ERD16TJ223	22k	1
R257	ERD16TJ223	22k	1
R258	ERD16TJ102	1k	1
R259	Not Used		
R260	ERD25TJ470	47	1
R261	ERD16TJ184	180k	1
		(CAPACITORS)	
C200A	ECQE1104KN	0.1 ⚠	1
C200B	ECQE1104KN	0.1 ⚠	1
C201A	ECQE2474KF	0.47 ⚠	1
C201B	ECQE2474KF	0.47 ⚠	1
C202A, C202B, C203A, C203B	ECEA1HU220	22 ⚠	4
C204A	ECQV1H104JZ	0.1	1

Ref. No.	Part No.	Value, Part Name & Description		Pcs
C204B	ECQV1H104JZ	0.1		1
C205A	ECEA1HU220	22	⚠	1
C205B	ECEA1HU220	22	⚠	1
C206A	ECKD1H102JA	0.001		1
C206B	ECKD1H102JA	0.001		1
C207A, C207B, C208A, C208B	ECFD1E683MD	0.068		4
C209A, C209B, C210A, C210B	ECCD1H560JC	56P		4
C211A	ECFD1E333KD	0.033		1
C211B	ECFD1E333KD	0.033		1
C212A	Not Used			
C212B	Not Used			
C213A	ECFD1E183KD	0.018		1
C213B	ECFD1E183KD	0.018		1
C214A	Not Used			
C214B	Not Used			
C215A	ECFD1E183KD	0.018		1
C215B	ECFD1E183KD	0.018		1
C216	Not Used			
C217	ECKD1H223MD	0.022		1
C218	Not Used			
C219, C220, C221	ECKD1H223MD	0.022		3
C222	ECKD1H103KB	0.01		1
C223	Not Used			
C224	Not Used			
C225A	ECKDKC222KB	0.0022	⚠	1
C225B	ECKDKC222KB	0.0022	⚠	1
C226	ECEA1EU101	100		1
C227	Not Used			
C228, C229	ECEA1EU470	47	S	2
C230	ECEA1EU101	100		1
C231	ECEA1CSS102	1000		1
C232-C237	Not Used			
C238A	ECKD1H103KB	0.01		1
C238B	ECKD1H103KB	0.01		1
C239	ECEA1HU100	10		1
C240A	ECKDKC222KB	0.0022		1
C240B	ECKDKC222KB	0.0022		1
		(OTHERS)		
1	PQDF996Z	Shaft		2
2	PQUB11Z	Latch	•	2
3	Not Used			
CNB	PQJP8S30Z	Connector, 8P		1
CNC	PQJP45S30Z	Connector, 45P		1
MJ1,2	PQJJ1TA11Z	Jack, Telephone	⚠	2

POWER BOARD PARTS

PCB7	PQWP7T123210	Power P.C. Board Ass'y (NLA)		1
		(TRANSISTORS)		
Q50	2SC2673	Transistor (Si)		1
Q51	2SB1015	Transistor (Si)		1
Q52	2SA881	Transistor (Si)		1
Q53	2SD1406	Transistor (Si)		1
		(DIODES)		
D50,51	PQVDS3V10LF	Diode (Si)		2
D52,53, D54	1SS131	Diode (Si)		3
D55,56	PQVDS3V10LF	Diode (Si)		2
D57,58	1SR35-200	Diode (Si)		2
LED1-3	LN28RPL	LED	S	3

Ref. No.	Part No.	Value, Part Name & Description		Pcs
		(VARISTOR)		
ZNR50	Not Used		•	
		(RESISTORS)		
R50	ERD16TJ823	82k		1
R51	ERD16TJ103	10k		1
R52	PQRD1VJ1R0	1		1
R53	ERDS1TJ181	180		1
R54,55	ERDS1TJ151	150		2
R56	ERDS1TJ181	180		1
R57	ERD16TJ103	10k		1
R58	PQRD1VJ1R0	1		1
R59	ERD16TJ103	10k		1
R60	ERD16TJ104	100k		1
R61	ERDS1TJ101	100		1
R62	ERD16TJ562	5.6k		1
R63	ERD16TJ822	8.2k		1
R64	ERD16TJ272	2.7k		1
		(CAPACITORS)		
C50	ECET35S153SW	15000		1
C51	Not Used			
C52	EECW0HS105Z	1	S	1
C53	ECEA1AU222	2200		1
C54	ECKD1H102JA	0.01		1
C55	ECEA1VU101	100		1
		(OTHERS)		
CN17	PQJP5D30Z	Connector, 5P		1
CN18	PQJP6D30Z	Connector, 6P		1
CN19	PQJP10D30Z	Connector, 10P		1
CN50	PQJP8D30Z	Connector,8P		1
CN51	PQJP4D30Z	Connector, 4P		1

POWER UNIT PARTS All ⚠

PCB8	PQLP005Z	Power Unit (NLA)		1
		(ICs)		
IC101	PQVIH16664AD	IC	•	1
IC102	Not Used		•	
IC201	PQVIL5431	IC		1
IC202, IC203, IC204	PQVIIR3M02	IC		3
IC205	AN6562	IC	S	3
IC206	PQVIL5431	IC		1
		(TRANSISTORS)		
Q101	2SK800	Transistor (Si)		1
Q102	2SA1015	Transistor (Si)		1
Q103	2SA1015	Transistor (Si)		1
Q104	2SC1815	Transistor (Si)		1
Q105	Not Used		•	
Q201	2SA1015	Transistor (Si)		1
Q202	2SA1020	Transistor (Si)		1
Q203	2SC3568	Transistor (Si)		1
Q204	2SC2750	Transistor (Si)		1
Q205	2SB744	Transistor (Si)		1
Q206	2SC1815	Transistor (Si)		1
Q207	2SA1020	Transistor (Si)		1
Q208	2SC3568	Transistor (Si)		1
Q209	Not Used		•	
Q210	Not Used		•	
Q211	Not Used		•	
Q212	Not Used		•	

Ref. No.	Part No.	Part Name and Description		Pcs
		(DIODES)		
D101	PQVDD5SB60	Diode (Si)		1
D102	PQVD10DF6	Diode (Si)		1
D103	PQVD10DF6	Diode (Si)		1
D104	PQVDERA22-02	Diode (Si)		1
D105	MA4100	Diode (Si)	*	1
D106	1SS131	Diode (Si)		1
D107	Not Used			
D108	PQVDRD18FB	Diode (Si)		1
D109	PQVDRD20JSB	Diode (Si)		1
D110	Not Used		*	
D111	Not Used		*	
D201	PQVDC25P20F	Diode (Si)		1
D202	PQVD11ES2	Diode (Si)		1
D203	PQVDF10P04Q	Diode (Si)		1
D204	PQVDRD6.2ESB	Diode (Si)		1
D205	PQVD11ES2	Diode (Si)		1
D206	1SS92			1
D207	PQVDF10P20F	Diode (Si)	*	1
D208	PQVDRD18JSB	Diode (Si)		1
D209	PQVD11ES2	Diode (Si)		1
D210	PQVDF10P10Q	Diode (Si)		1
D211	PQVDRD13JSB	Diode (Si)		1
D212	Not Used		*	
D213	Not Used		*	
		(PHOTO ELECTRIC TRANSDUCERS)		
PC101,	PQVITLP521	Photo Coupler		1
PC102,	Not Used		*	
PC201	PQVITLP521	Photo Coupler		1
		(THYRISTOR)		
SCR201	PQVDAC12DSM	Thyristor	*	1
		(VARISTOR)		
SA103	ERZC14DK271U	Varister		1
		(COILS & TRANSFORMERS)		
L101	PQLE75	Choke Coil	*	1
L102	PQLE76	Choke Coil	*	1
T103	ETQ16K11AY	Choke Coil	*	1
L201	PQLE74	Choke Coil	*	1
L202	PQLE70	Choke Coil	*	1
L203	ELC08D069	Choke Coil	*	1
L204	PQLE74	Choke Coil	*	1
L205	PQLE71	Choke Coil	*	1
L206	PQLE72	Choke Coil	*	1
L207	ELC08D069	Choke Coil	*	1
L208	PQLE73	Choke Coil	*	1
T101	ETS35K420A	Switching Transformer	*	1
T201	ETH16K33AY	Drive Transformer	*	1
		(VARIABLE RESISTORS)		
VR101	Not Used		*	
VR201	EVM38GA00B53	Semi-Fixed, 5kΩ (B)	S	1
VR202	EVM38GA00B13	Semi-Fixed, 1kΩ (B)	S	1
VR203	PQN80A00B13M	Semi-Fixed, 1kΩ (B)	*	1
VR204	PQN80A00B23M	Semi-Fixed, 2kΩ (B)	*	1
		(OTHERS)		
CR119	PQVDMGC4R3R2	Component Combination		1
CR120	PQVDMGC4R3R2	Component Combination		1
SW101	EST15302T	Switch, Power	S	1
RL201	Not Used		*	
F101	XBA1C50NU100	Fuse, 5A, 125V		1
F201	XBA1C100NU10	Fuse, 10A, 125V		1
CN1	PQJS7R35Z	Connector, 7P	*	1
CN2	PQJS2L47Z	Connector, 2P	*	1
100	PQJA112Z	AC Cord	*	1
101	PQHR104Z	Clamper, AC Cord		1
102	PQHR945Z	Band	*	4

Ref. No.	Part No.	Value		Pcs
TH101	ERTD5FFL5R0P	Thermistor		1
TH102	ERTD5FFL5R0P	Thermistor		1
		(CAPACITORS)		
C101	ECQU1A224MH	0.22		1
C102	ECKDKC472KB	4700P		1
C103	ECKDKC222KB	2200P		1
C104	ECKDKC222KB	2200P		1
C105	ECOS2DG102Y	1000		1
C106	ECQE6103KF	0.01		1
C107	ECKD3A471KBL	470P		1
C108	ECEA1HGA100	10		1
C109	ECQV1H104JZ	0.1	*	1
C110	ECQM1H153JV	0.015		1
C111	ECQM1H152JV	0.0015		1
C112	ECEA1HGA100	10		1
C113	ECEA1HGA100	10		1
C114	Not Used		*	
C115	Not Used		*	
C116	Not Used		*	
C117	Not Used			
C118	Not Used			
C119	Not Used			
C120	Not Used			
C121	ECKDKC472KB	4700P		1
C122	Not Used		*	
C123	Not Used		*	
C124	ECKDKC472KB	4700P		1
C200	Not Used			
C201	ECKD3A102KBN	1000P		1
C202	ECKD3A471KBL	470P		1
C203	ECEA1EG332S	3300		1
C204	ECEA1HGA010	1	*	1
C205	ECEA1EG332S	3300		1
C206	ECQM1H104JV	0.1		1
C207	ECEA1HGA010	1	*	1
C208	ECEA1HGA100	10		1
C209	ECQM1H473JV	0.047		1
C210	ECQM1H153JV	0.015		1
C211	ECQM1H102JV	0.001		1
C212	ECEA1AGA222	2200	*	1
C213	ECQM1H104JV	0.1		1
C214	ECEA1AGA222	2200	*	1
C215	ECEA1HGA100	10		1
C216	ECQM1H473JV	0.047		1
C217	ECQM1H104JV	0.1		1
C218	ECEA1HGA4R7	4.7	*	1
C219	ECQM1H104JV	0.1		1
C220	ECQM1H104JV	0.1		1
C221	ECQM1H102JV	0.001		1
C222	ECEA1EGA222	2200		1
C223	ECEA1EGA222	2200		1
C224	ECEA1EGA222	2200		1
C225	ECEA1HGA010	1	*	1
C226	ECEA1HGA100	10		1
C227	ECQM1H473JV	0.047		1
C228	ECQM1H102JV	0.001		1
C229	ECEA1EGA222	2200		1
C230	ECQM1H104JV	0.1		1
C231	ECEA1EGA222	2200		1
C232	ECEA1HGA100	10		1
C233	ECQE2474KF	0.47	*	1
C234	ECKDKC222KB	2200P		1
C235	Not Used			
C240	ECQV1H105JZ	1	*	1
		(RESISTORS)		
R103	PQRD2VJ473	47k	*	1
R104	PQRD2VJ104	100k	*	1
R105	ERDS1TJ220	22		1
R106	PQRD2VJ100	10	*	1
R107	ERD16TJ683	68k		1
R108	ERD16TJ183	18k	*	1
R109	ERD16TJ472	4.7k		1
R110	ERD16TJ102	1k		1
R111	ERD16TJ221	220		1

Ref. No.	Part No.	Value			Pcs
R112	ERD16TJ103	10k			1
R113	ERD16TJ392	3.9k		*	1
R114	ERD16TJ333	33k			1
R115	ERD16TJ471	470			1
R116	ERD16TJ103	10k			1
R117	ERDS1TJ101	100			1
R118	Not Used			*	
R119	Not Used			*	
R120	Not Used			*	
R121	Not Used			*	
R122	Not Used			*	
R123	Not Used			*	
R124	Not Used			*	
R201	ERG1ANJP220S	22	*	*	1
R202	ERD1TJ100	10			1
R203	ERD16TJ102	1k			1
R204	ER016CKF2002	20k		*	1
R205	ERD16TJ222	2.2k			1
R206	ERD16TJ561	560			1
R207	ERD16TJ471	470			1
R208	ERD16TJ102	1k			1
R209	ERD16TJ223	22k			1
R210	ERD16TJ104	100k			1
R211	ERD16TJ103	10k			1
R212	ERD16TJ103	10k			1
R213	ERD16TJ104	100k			1
R214	ERD16TJ682	6.8k			1
R215	ERD16TJ103	10k			1
R216	ERD16TJ332	3.3k			1
R217	ERD16TJ680	68			1
R218	ERD1TJ102	1k			1
R219	ERD16TJ100	10			1
R220	ERD16TJ470	47			1
R221	ERD16TJ102	1k			1
R222	PQRF2TLJR05	0.05		*	1
R223	ERD16TJ681	680			1
R224	ERD16TJ183	18k			1
R225	ERD16TJ682	6.8k			1
R226	ERD16TJ562	5.6k			1
R227	ERD16TJ330	33		*	1
R228	Not Used				
R229	Not Used				
R230	Not Used				
R231	Not Used				
R232	ERD16TJ103	10k			1
R233	ERD16TJ103	10k			1
R234	ERD16TJ222	2.2k			1
R235	Not Used				
R236	ERD16TJ104	100k			1
R237	ERD16TJ682	6.8k			1
R238	ERD16TJ273	27k			1
R239	ERD16TJ103	10k			1
R240	ERD16TJ183	18k			1
R241	ERD1TJ102	1k			1
R242	ERDS1TJ101	100			1
R243	PQRD3TJ3R3	3.3		*	1
R244	ERDS1TJ150	15			1
R245	ERD16TJ470	47			1
R246	ERD16TJ102	1k			1
R247	ERD16TJ821	820			1
R248	ERD16TJ104	100k			1
R249	ERD16TJ103	10k			1
R250	ERD16TJ103	10k			1
R251	ERD16TJ104	100k			1
R252	ERD16TJ682	6.8k			1
R253	ERD16TJ103	10k			1
R254	ERD16TJ680	68			1
R255	ERD1TJ102	1k			1
R256	ERD16TJ100	10			1
R257	ERD16TJ470	47			1
R258	ERD16TJ332	3.3k			1
R259	PQRF2TLJR05	0.05		*	1
R260	ERD16TJ102	1k		*	1
R261	ERD16TJ223	22k			1
R262	ERD16TJ103	10k			1
R263	ERD16TJ222	2.2k			1

Ref. No.	Part No.	Value			Pcs
R264	ERD16TJ470	47			1
R265	Not Used			*	
R266	Not Used			*	
R267	Not Used			*	
R268	Not Used			*	
R269	Not Used			*	
R270	ERD16TJ153	15k			1
R271	ERD16TJ102	1k			1
R272	ERD16TJ271	270			1
R273	Wire Lead				1
R274	ERD16TJ152	1.5k			1
R275	ERDS1TJ152	1.5k			1
R276	ERD16TJ104	100k			1
R277	ERD16TJ682	6.8k			1
R278	ERD16TJ102	1k			1
R280	ERG2ANJ120	12		*	1

4004

ORDER NO. KM4S005208C2

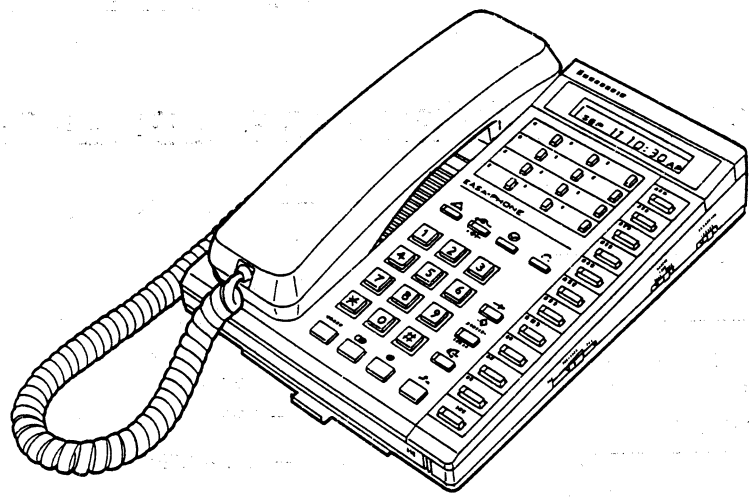
Servicehandbuch

EASA-PHONE

KX-T30830S

INTEGRIERTES TELEFONSYSTEM

(System-Sprechstelle mit LCD-Anzeige für KX-T30810BS)



■ TECHNISCHE DATEN

Max. Sprechstellen-Schleifenwiderstand:	40 Ohm
Verkabelung:	2 Adernpaare
Anschlüsse:	Zentraleinheit, Handapparat Zweithörer
Display:	16 Zeichen (max.)
Abmessungen:	158 (B) x 82 (H) x 228 (T) mm incl. Handapparat
Gewicht:	1 kg

Änderungen von Design und technischen Daten vorbehalten.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 53[illegible]-91, Japan

4004

Die Seriennummer ist immer 11-stellig anzugeben. Sie befindet sich auf dem Typenschild an der Unterseite des Apparates.

INHALTSVERZEICHNIS

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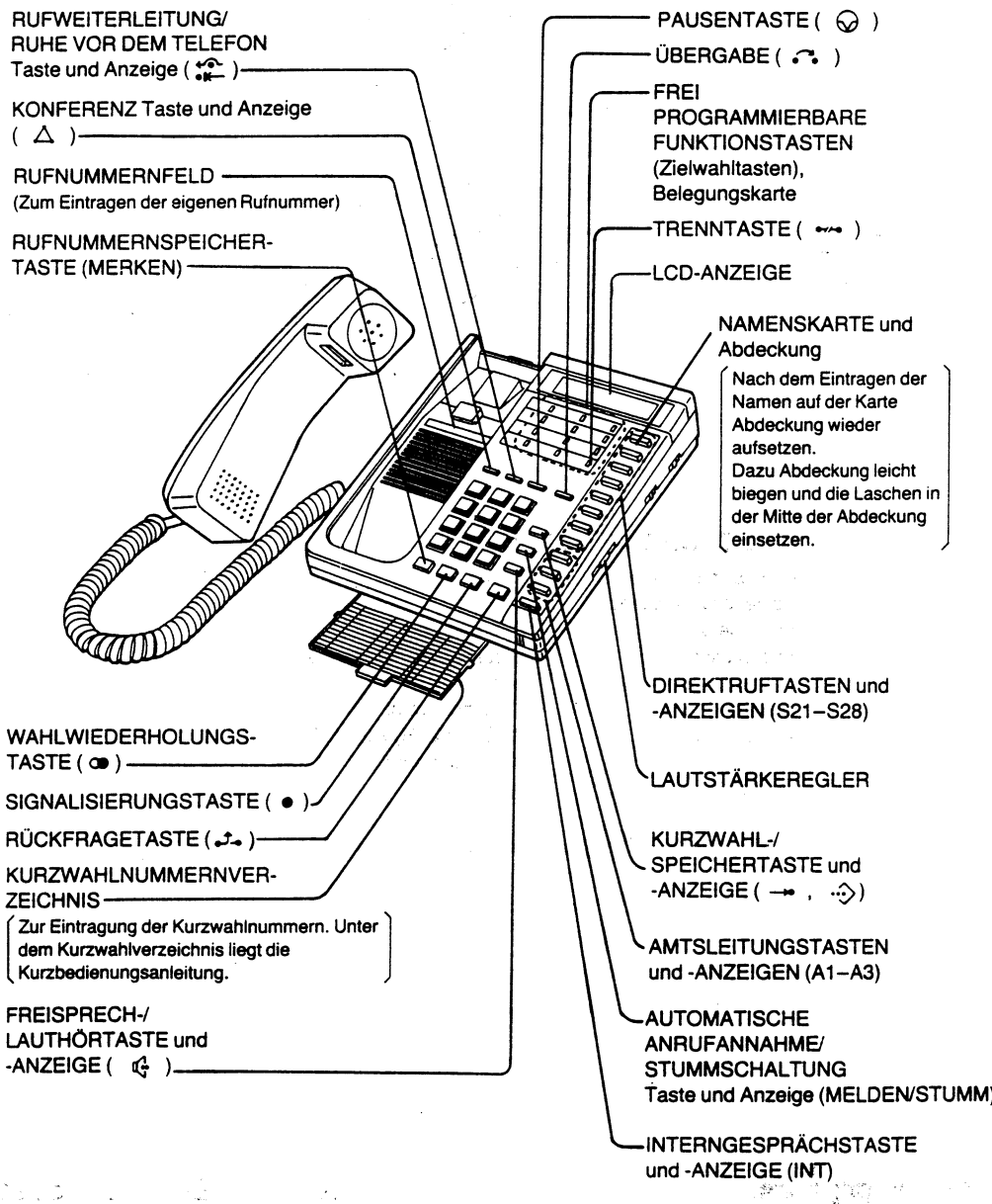


Abb. 1

Wenn der Schalter für die Systemprogrammierung in der Zentraleinheit auf PROGRAM steht, haben die Tasten am Systemapparat die folgenden Funktionen:

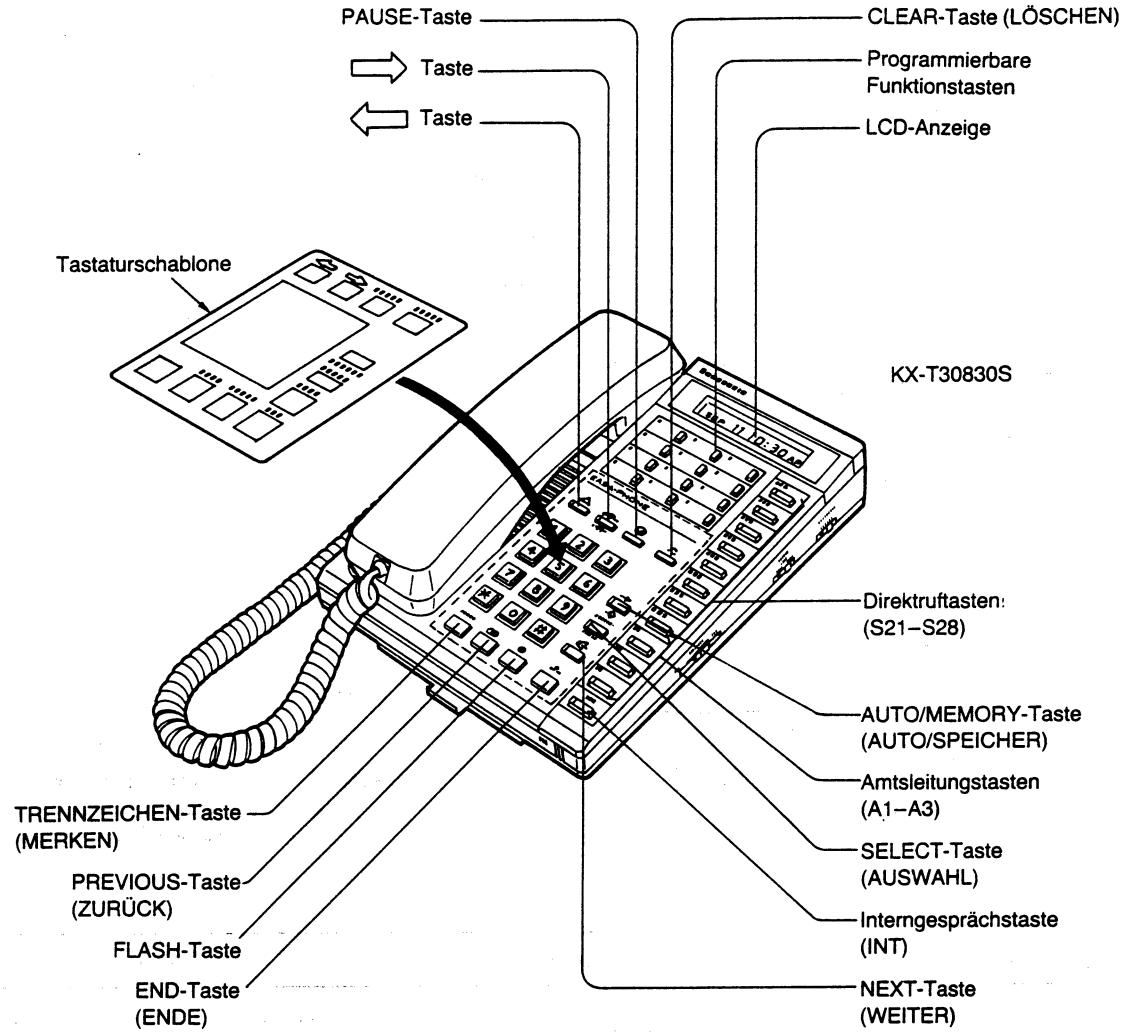


Abb. 2

FÜR DEN SERVICETECHNIKER

Beim Austausch der LEDs ist folgendes zu beachten:

1. Verwenden Sie einmal von der Leiterplatte entfernte LEDs nicht nochmals.
2. Verwenden Sie zum Austauschen der LEDs einen Lötkolben mit weniger als 15 Watt Leistung.
3. Erhitzen Sie die LEDs beim Ein- und Auslöten nicht länger als 2 Sekunden
4. Die LEDs dürfen nach dem Lötvorgang nicht bewegt werden.

DEMONTAGE

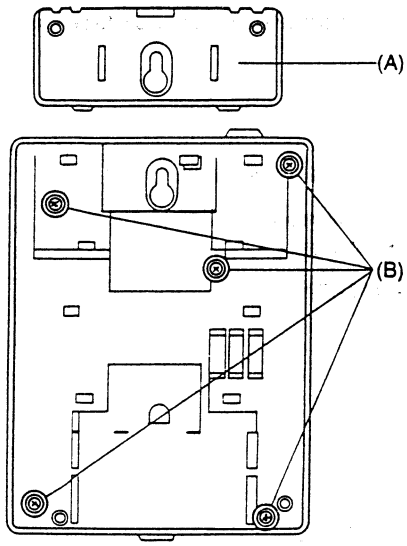


Abb. 3

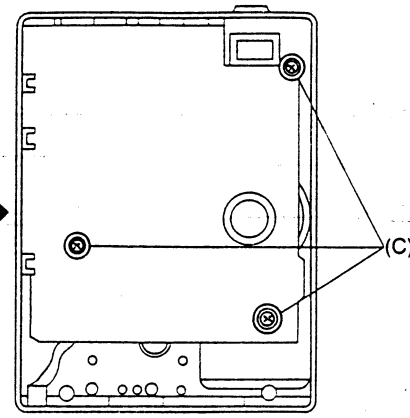


Abb. 4

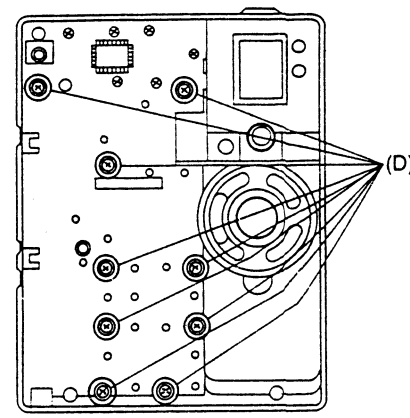


Abb. 5

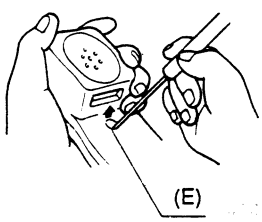


Abb. 6

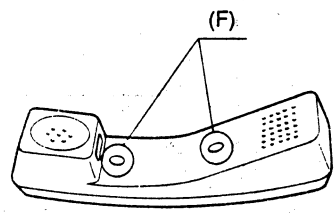


Abb. 7

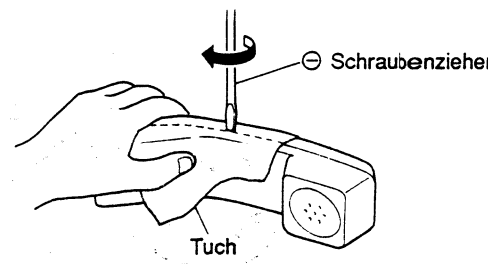


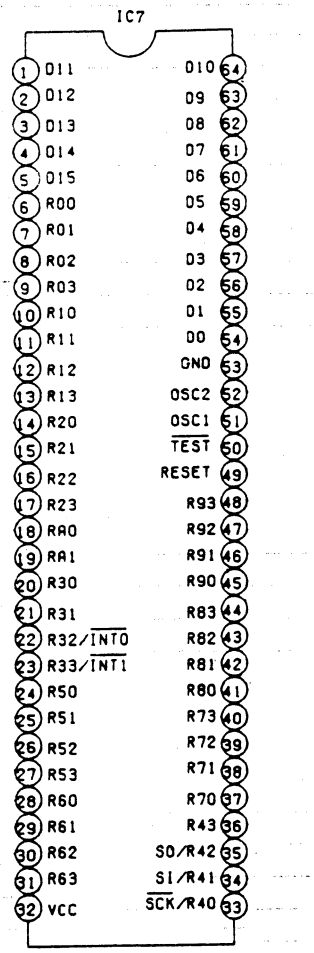
Abb. 8

(Zur Vermeidung von Kratzern am Gehäuse sollte ein dickes Tuch untergelegt werden)

Nr.	Vorgehensweise	Bild	Demontage von	Entfernen
1	1, 2	3	Gehäuseunterteil	Fuß ..... (A)
2				Schraube (3x14) ..... (B)x5
3	1-4	4	Hauptplatine	Schraube (3x10) ..... (C)x3
4				Platine (siehe Hinweis)
5	1-6	5	Wählplatine	Schraube (2,3x8) ..... (D)x9
6				Platine
7	7-9	6	Hörergehäuse	Gummistopfen ..... (E)x2
8		7		Schrauben (3x10) ..... (F)x2
9		8		Gehäuse

Hinweis:
Herausnehmen der Platine in Pfeilrichtung.

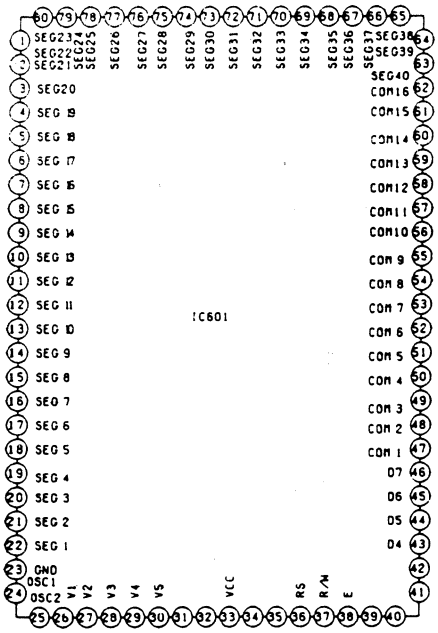
IC-DATEN



IC7:	PQVI4046SA48
Programm-ROM:	4 kByte (4 Bit)
Internes RAM:	1 kBit
Taktfrequenz:	2,5 MHz
Versorgungsspannung:	2,7 - 6 V

Anschluß	Bezeichnung	Funktion	HIGH	LOW
1	D11	LED-Ansteuerung	EIN	AUS
2	D12	LED-Ansteuerung	EIN	AUS
3	D13	LED-Ansteuerung	EIN	AUS
4	D14	LED-Ansteuerung	EIN	AUS
5	D15	LED-Ansteuerung	EIN	AUS
6	R00	LED-Ansteuerung	EIN	AUS
7	R01	LED-Ansteuerung	EIN	AUS
8	R02	LED-Ansteuerung	EIN	AUS
9	R03	LED-Ansteuerung	EIN	AUS
10	R10	Tonsignal-Ansteuerung	EIN	AUS
11	R11	Tonsignal-Ansteuerung	EIN	AUS
12	R12	Tonsignal-Ansteuerung	EIN	AUS
13	R13	Tonsignal-Ansteuerung	EIN	AUS
14	R20	Stummschaltung Hörer	EIN	AUS
15	R21	Stummschaltung MIC/Hörerstatusüberwachung Mikrofonfunktion	EIN	AUS
16	R22	Hörer/Spannungsteuerung	EIN	AUS
17	R23	Stummschaltung Lautsprecher	EIN	AUS
18	RA0	Tasteneingabe	abgesch.	eingesch.
19	RA1	Masse	—	—
20	R30	LCD-Datenausgang	—	—
21	R31	LCD-Datenausgang	—	—
22	R32/INT0	Interrupteingang	Standby	Aktiv
23	R33/INT1	Interrupteingang	Standby	Aktiv

Anschluß	Bezeichnung	Funktion	HIGH	LOW
24	R50	Ausgang Tastenabfrage/LCD-Daten	Normal	Aktiv
25	R51	Ausgang Tastenabfrage/LCD-Daten	Normal	Aktiv
26	R52	Ausgang Tastenabfrage/LCD-Daten	Normal	Aktiv
27	R53	Ausgang Tastenabfrage/LCD-Daten	Normal	Aktiv
28	R60	MFV-Ansteuerung	Normal	Aktiv
29	R61	MFV-Ansteuerung	Normal	Aktiv
30	R62	MFV-Ansteuerung	Normal	Aktiv
31	R63	nicht belegt	—	—
32	Vcc	Positive Versorgungsspannung	—	—
33	SCK/R40	Interruptausgang	AUS	EIN
34	S0/R41	Tasteneingang	AUS	EIN
35	S0/R42	Tasteneingang	AUS	EIN
36	R43	Tasteneingang	AUS	EIN
37	R70	Ansteuerung MFV	Normal	Aktiv
38	R71	Ansteuerung MFV	Norma	Aktiv
39	R72	Ansteuerung MFV	Normal	Aktiv
40	R73	Ansteuerung MFV	Normal	Aktiv
41	R80	nicht belegt	—	—
42	R81	Select f. Freisprech-IC(SP-PHONE)	AUS	EIN
43	R82	Mikrofonfunktion-Ansteuerung	EIN	AUS
44	R83	Freisprechmikrofon Stummschaltung	EIN	AUS
45	R90	Tasteneingang	AUS	EIN
46	R91	Tasteneingang	AUS	EIN
47	R92	nicht belegt	—	—
48	R93	Gabelstatus	abgehoben	aufgelegt
49	RESET	Systemreset	—	—
50	TEST	—	—	—
51	OSC1	Systemtakt	—	—
52	OSC2	Systemtakt	—	—
53	GND	Masse	—	—
54	D0	LCD-EIN-Steuerung	Aktiv	Normal
55	D1	Tasteneingang	AUS	EIN
56	D2	LED-Resetausgang	Aktiv	Normal
57	D3	Dateneingangssteuerung	Normal	Aktiv
58	D4	Dateneingang	Normal	Aktiv
59	D5	Datenausgang	Aktiv	Normal
60	D6	nicht belegt	—	—
61	D7	Funktion Freisprechsystem	EIN	AUS
62	D8	nicht belegt	—	—
63	D9	LED-Ansteuerung	EIN	AUS
64	D10	LED-Ansteuerung	EIN	AUS



IC601: PQVIHD44780
RAM Display-Daten: 80x8 bits
ROM Zeichengenerator: 160 Zeichen

Anschluß	Bezeichnung	Funktion	HIGH	LOW
1 bis 22	SEG 22 bis SEG 1	LCD-Segment-Ansteuerung	40-Status Ausgang	
63 bis 80	SEG 40 bis SEG 23			
23	GND	Masse		
24	OSC 1	Systemtakt		
25	OSC 2			
26 bis 30	V1 bis V5	Stromversorgung LCD		
31		nicht belegt		
32		nicht belegt		
33	Vcc	Versorgungsspannung		
34		nicht belegt		
35		nicht belegt		
36	RS	Signal zur Anwahl von Widerständen	Daten-Widerst.	Befehls-Adr.-Widerst.
37	R/W	Signal zur Anwahl von Lesen/Schreiben	Lesen	Schreiben
38	E	Startsignal für Daten lesen/schreiben	Aktiv	Normal
39 bis 42		nicht belegt		
43 bis 46	D4 bis D7	Datenbus		
47 bis 62	COM1 bis COM16	Ausgang LCD-Signal	16 Status Ausgang	

BLOCKSCHALTBILD

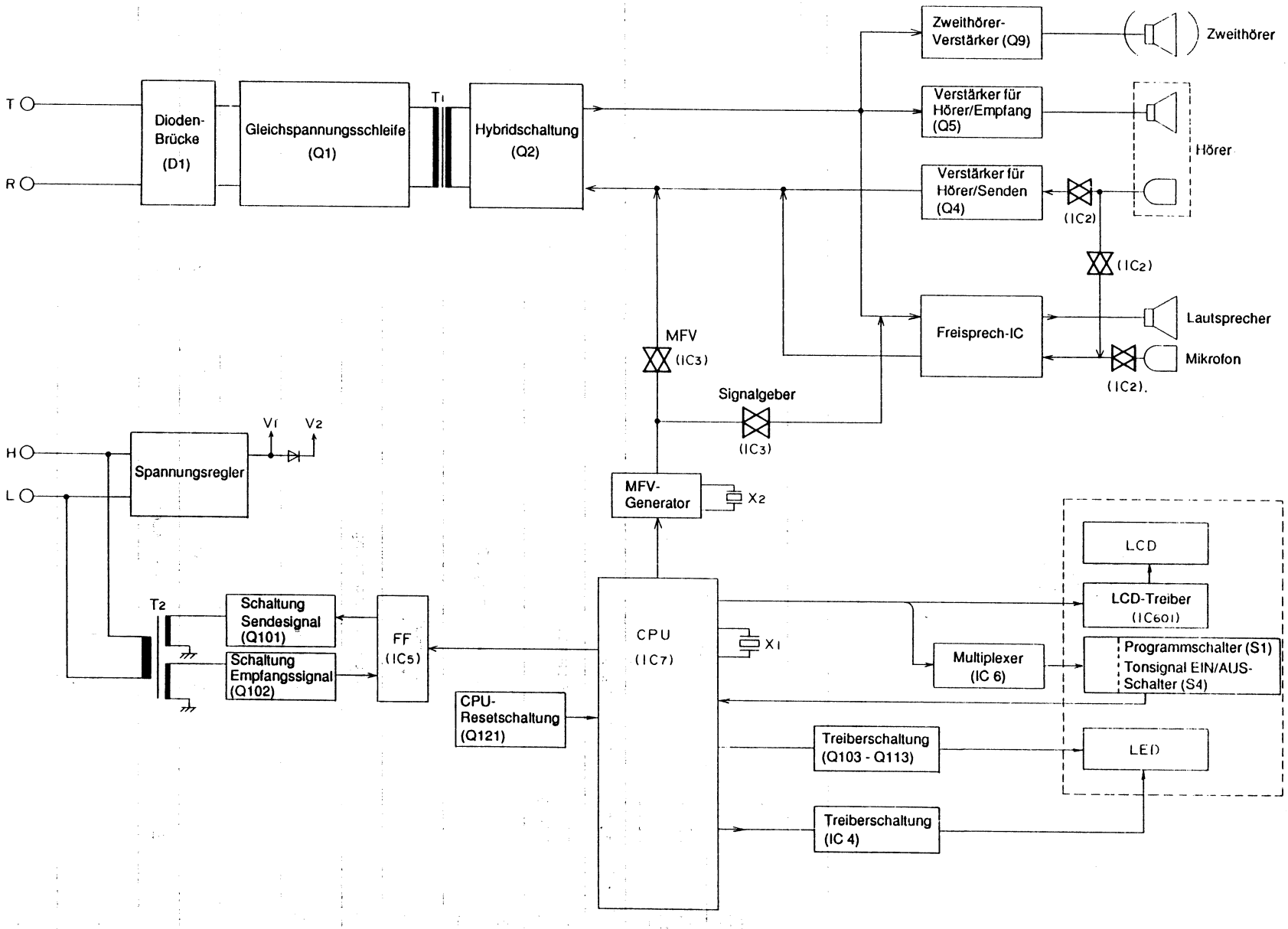


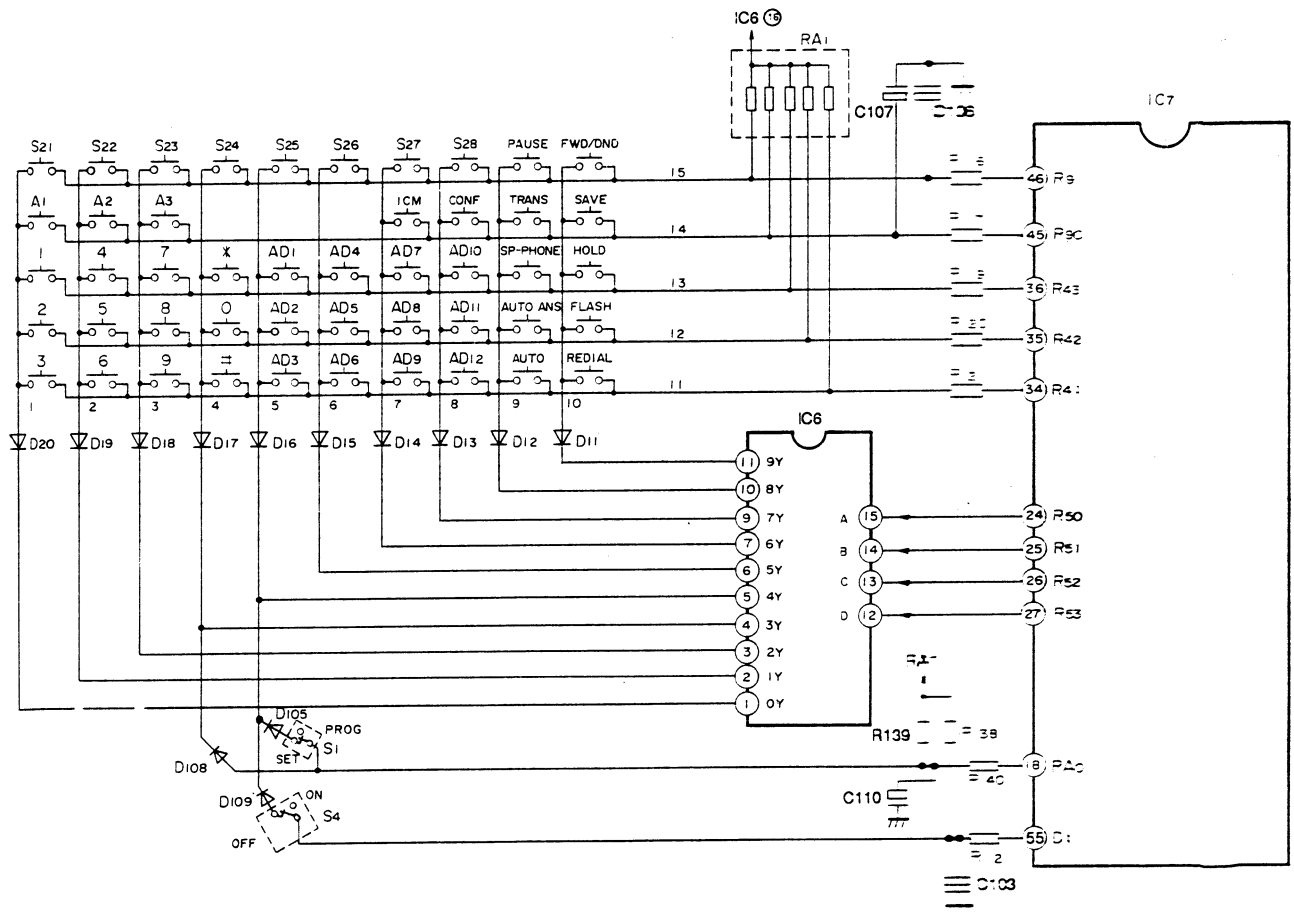
Abb. 9

SCHALTUNGSFUNKTIONEN

■ SCHALTUNG FÜR TASTENEINGABE

Die sequentielle Informationseingabe (negative Logik) vom System- apparat wird über dynamisches Scanning erzielt. Die Anschlüsse 0Y bis 9Y von IC6 werden nacheinander vom Impuls aus den Anschlüssen R50 bis R53 von IC7 auf LOW gebracht. Beim Drücken einer Taste wird die Eingabe der Tasteninformation über die Anschlüsse R41 bis R43, R90 und R91 verarbeitet.

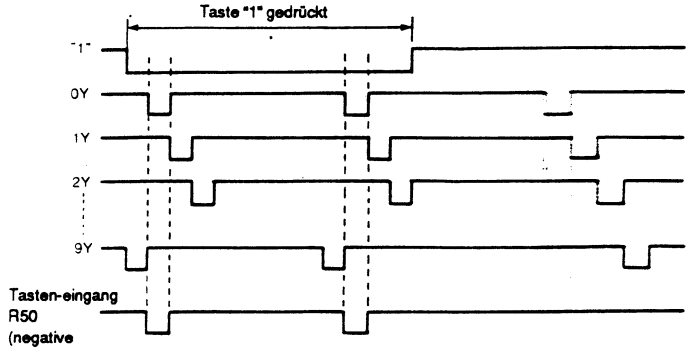
Schaltplan


IC6
RA1
C107
IC7
S21 S22 S23 S24 S25 S26 S27 S28 PAUSE FWD/DND
A1 A2 A3 ICM CONF TRANS SAVE
1 4 7 * AD1 AD4 AD7 AD10 SP-PHONE HOLD
2 5 8 0 AD2 AD5 AD8 AD11 AUTO ANS FLASH
3 6 9 # AD3 AD6 AD9 AD12 AUTO REDIAL
D20 D19 D18 D17 D16 D15 D14 D13 D12 D11
IC6
9Y 8Y 7Y 6Y 5Y 4Y 3Y 2Y 1Y 0Y
A B C D
R50 R51 R52 R53
R139
C110
D105 PROG SET S1
D108
D109 ON OFF S4
C103

Zeitdiagramm Tasteneingabe

Logiktabelle IC9

No.	EINGABE A	B	C	D	AUSGABE 0Y	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y
0	L	L	L	L	L	H	H	H	H	H	H	H	H	H
1	H	L	L	L	H	L	H	H	H	H	H	H	H	H
2	L	H	L	L	H	H	L	H	H	H	H	H	H	H
3	H	H	L	L	H	H	H	L	H	H	H	H	H	H
4	L	L	H	L	H	H	H	H	L	H	H	H	H	H
5	H	L	H	L	H	H	H	H	H	L	H	H	H	H
6	L	H	H	L	H	H	H	H	H	H	L	H	H	H
7	H	H	H	L	H	H	H	H	H	H	H	L	H	H
8	L	L	L	H	H	H	H	H	H	H	H	H	L	H
9	H	L	L	H	H	H	H	H	H	H	H	H	H	L

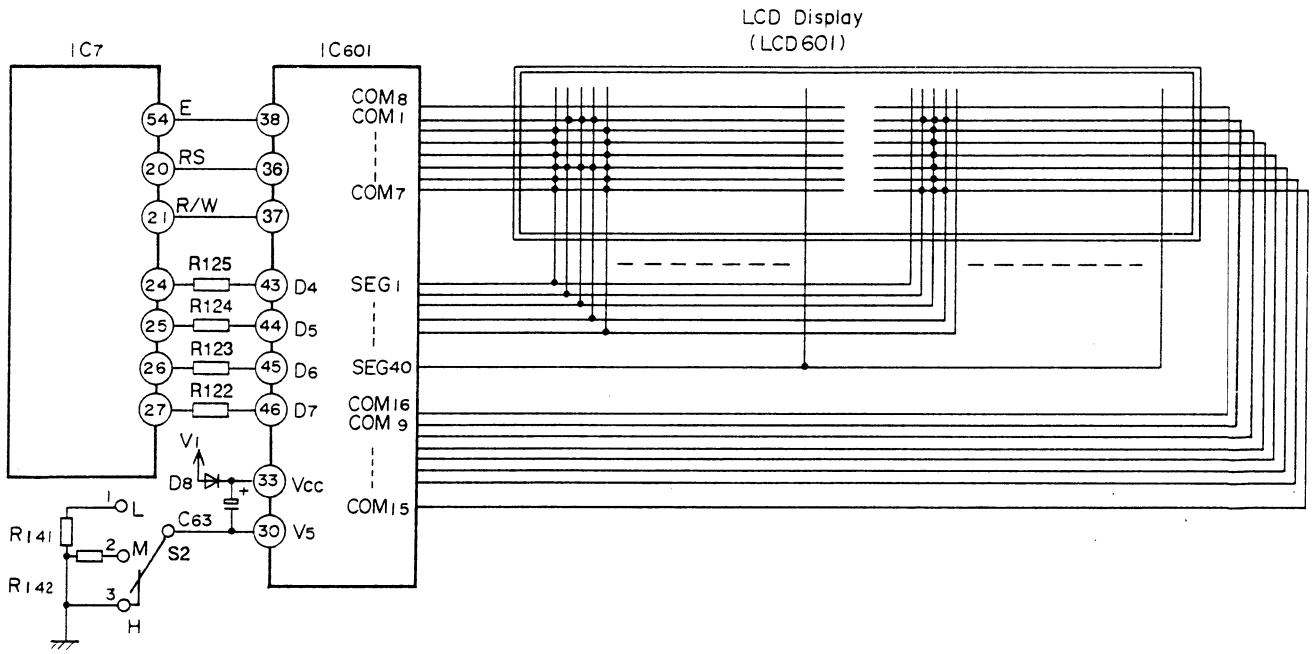


Wenn "0Y" sich auf LOW-Status befindet und "1" gedrückt ist, wird die Tasteneingabe-Information gelesen.

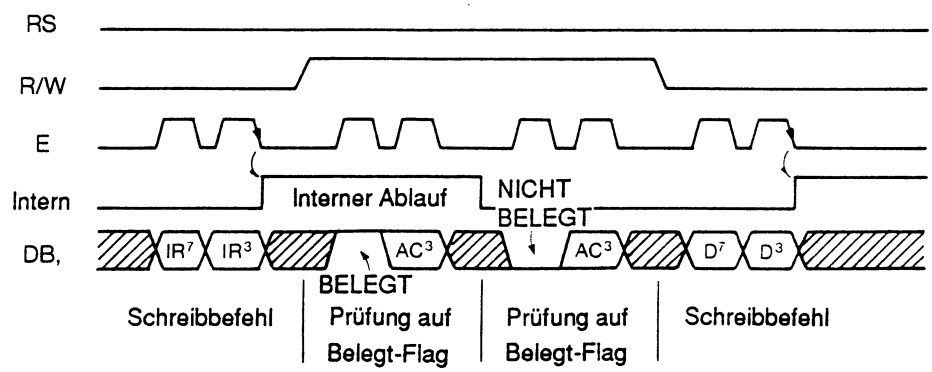
■ LCD-ANSTEUERSCHALTUNG

Schaltungsfunktion:
Die LCD-Display-Daten werden über die Pins 24 bis 27 ausgegeben und sind in zwei 4-Bit-Abschnitte aufgeteilt.
Die Einstellung des LCD-Kontrastes wird mit R141, R142 und S2 vorgenommen.
Der Kontrast hängt nur von der Spannung zwischen Vcc und V5 ab. Bei höherer Spannung nimmt der Kontrast entsprechend zu.

Schaltplan



Zeitdiagramm 4-Bit-Datenübertragung

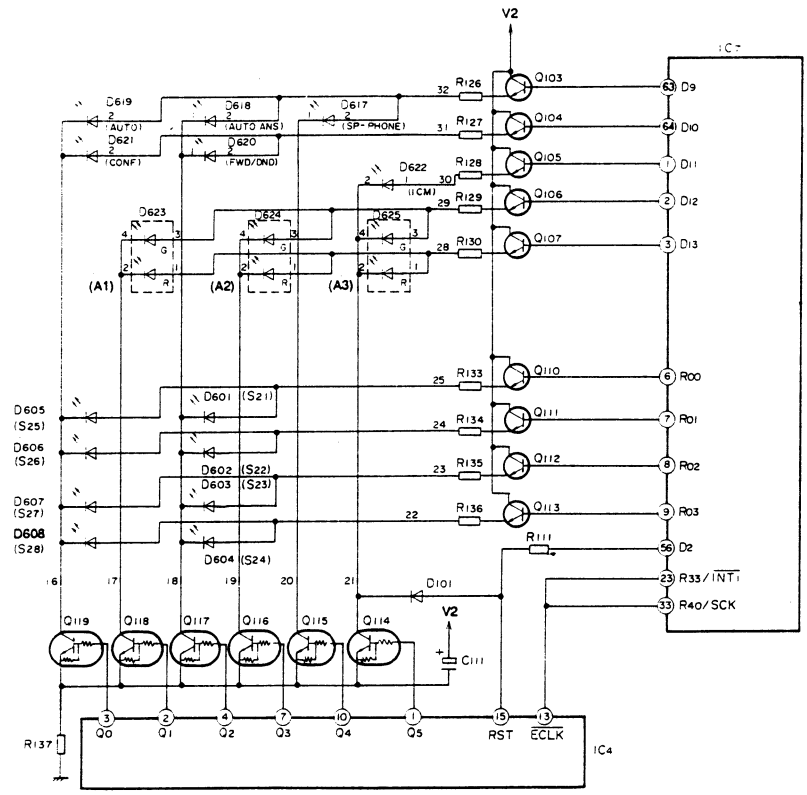


Hinweis: IR7, IR3: Befehl 7. Bit, 3. Bit
AC3: Adreßzähler 3. Bit

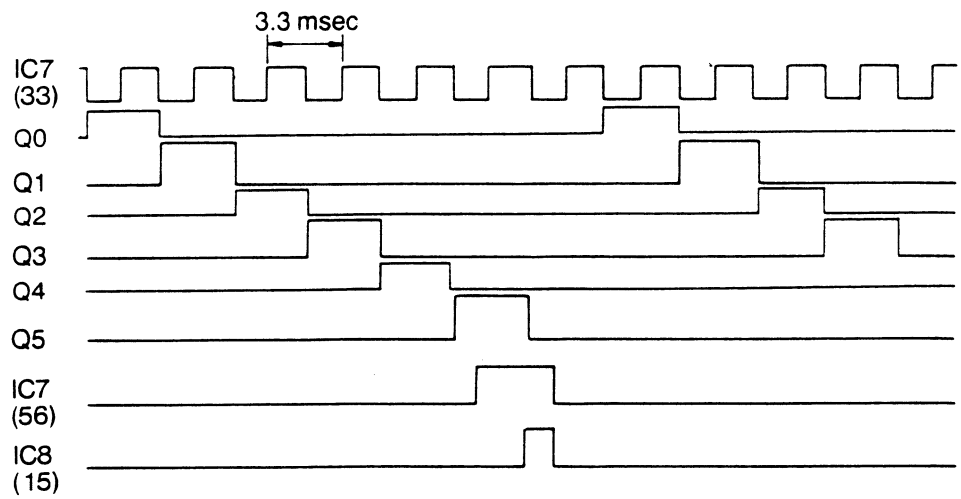
■ LED-SCHALTUNG

Schaltungsfunktion:
Die LED's bewirken das dynamische Aufleuchten der Statusanzeigen. Die Ansteuerung wird von den Ausgangsanschlüssen Q0 bis Q5 (Spalte) des Dekodier-Zählers (IC4) und D9 bis D15, R00 bis R03 von IC7 übernommen.
Wenn die Daten-Übergabe zwischen der Zentraleinheit und dem Systemapparat beginnt, wird vom SCK-Anschluß des IC7 fortlaufend ein festgetakteter Impuls (T = 3,3 ms). Dieser Impuls wird gezählt und der Ausgang von IC4 wird nacheinander von Q0 bis Q4 und Q5 weitergeschaltet. Wenn Q5 auf HIGH steht, geht Pin 56 von IC7 ebenfalls auf HIGH.
Wenn der Pegel von IC4 (Q5) beim nächsten Puls von HIGH auf LOW wechselt, schaltet Pin 15 von IC4 auf HIGH. Dadurch wird der zähler zurückgesetzt, und die Ausgabe wieder von Q0 beginnend vorgenommen.
Andererseits geben D9 bis D15 von IC7 zusammen mit R00 bis R03 auch Impulse ab, wodurch das Aufleuchten der LED durch den Zeitpunkt der Ausgabe von IC4 gesteuert wird.

Schaltplan



Zeitdiagramm



■ SCHALTUNG DATENKOMMUNIKATION

Zweck:
Die Schaltung für Datenkommunikation erfüllt die nachfolgenden Funktionen:
Informationsaustausch zwischen dem und Systemapparat, sowohl Informationen über Tasteneingaben als auch Daten für die LED-Ansteuerung, LCD-Ansteuerung usw. Diese Informationen werden ständig und unterbrechungsfrei ausgetauscht.

Funktion der Schaltung:
Wenn der Systemapparat ein IRQ-Signal von der Zentraleinheit empfängt sowie nach dem Senden der Tasteneingabe-Information (19 Impulse) an die Zentraleinheit und nach dem Empfang von Daten (47 Impulse) für die LED-Steuerung usw., gibt der Systemapparat ein Bestätigungssignal (ACK) an die Zentraleinheit zurück.

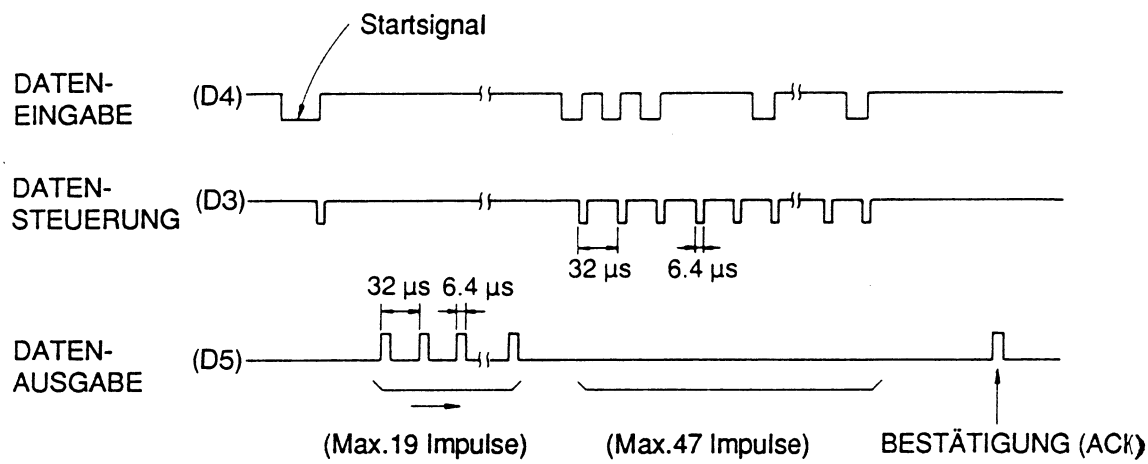
1) Empfang
Die Daten von der Zentraleinheit gelangen über die H- und L-Leitung auf dem folgenden Weg an den Systemapparat:

H, L-Leitung→T2→R107→Q102→IC5→IC7 Pin 58

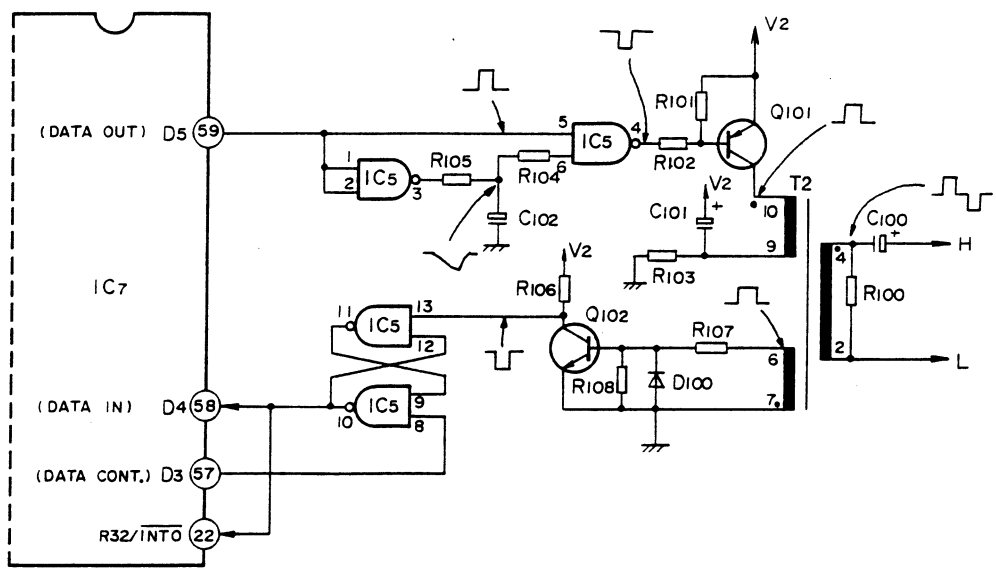
2) Senden
Die Daten vom Systemapparat werden auf folgendem Weg an die Zentraleinheit gesendet:

IC7 Pin 59→IC5→R102→Q101→T2→H, L-Leitung

Zeitdiagramm



Schaltplan

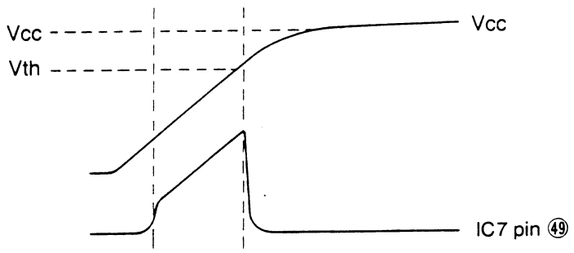


■ RESET-SCHALTUNG

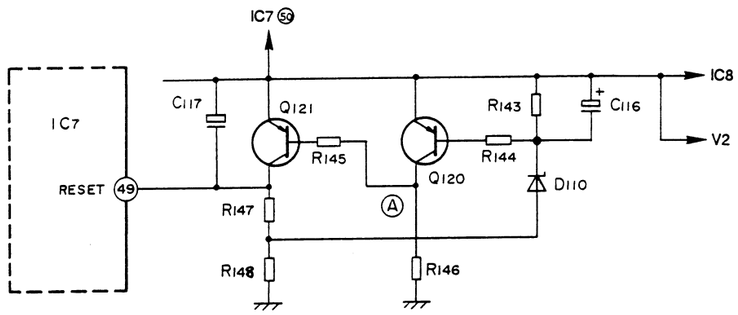
Schaltungsfunktion:
Dieser Schaltkreis wird zur Übertragung eines Reset-Impulses an die CPU (IC7) bei folgenden Situationen genutzt: Anschluß an Telefonbuchse, Inbetriebnahme. Nachfolgend ist das Zeitdiagramm abgebildet.

Netz EIN→Q121 EIN→IC7 (Pin 49) HIGH→Q120 EIN→(A) HIGH→Q121 AUS→IC7 (Pin 49) LOW

Zeitdiagramm



Schaltplan

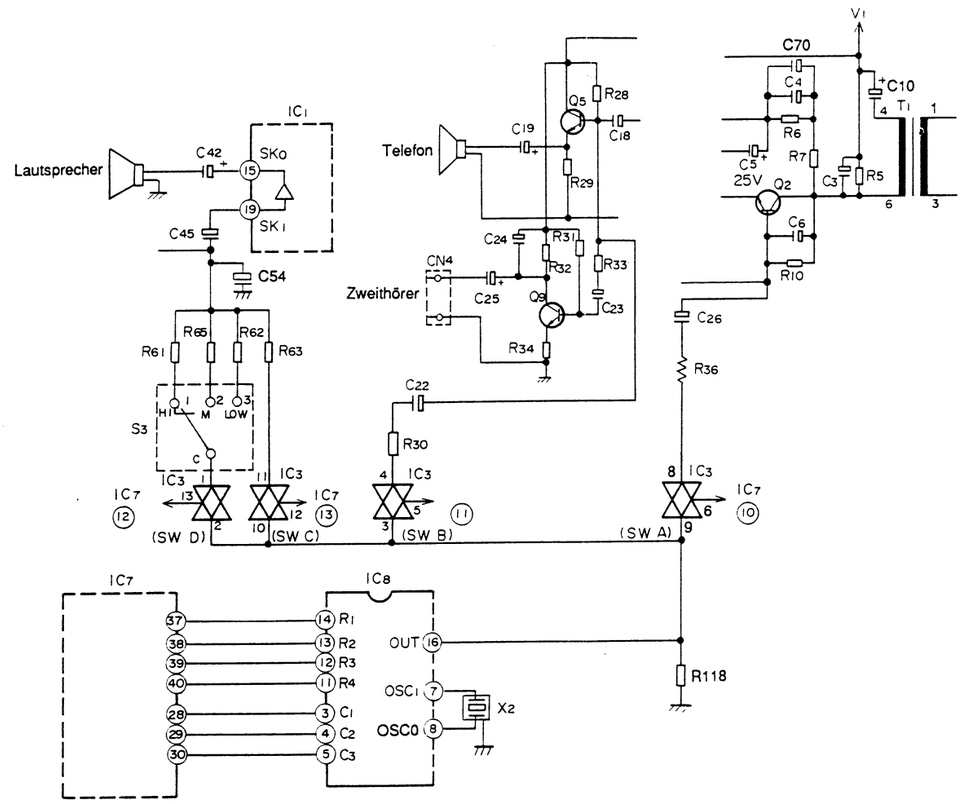


■ SIGNALGENERATOR-SCHALTUNG

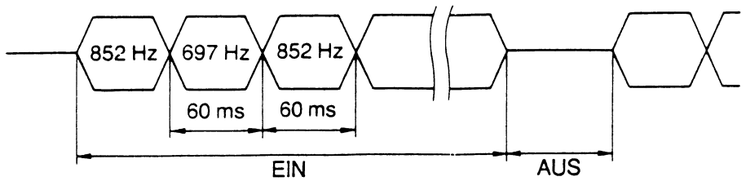
Zweck:
Diese Schaltung erzeugt alle Signale für das System, einschließlich Amtston, Internwählton, Besetztzeichen, MFV-Signale und Tasten-eingabe-Bestätigungstöne im Netzausfallbetrieb. Sie besteht aus IC10 (MFV-Generator IC) und IC4 (Analogschalter).

Schaltungsfunktion:
IC10 arbeitet als MFV-Generator.
Für die Ausgabe eines Einzeltons muß der Zeilenanschluß und alle damit kreuzenden Spaltenanschlüsse im LOW-Status sein. Für einen Mehrfrequenzton müssen ein Zeilenanschluß und ein Spaltenanschluß auf LOW geschaltet sein.

Schaltplan

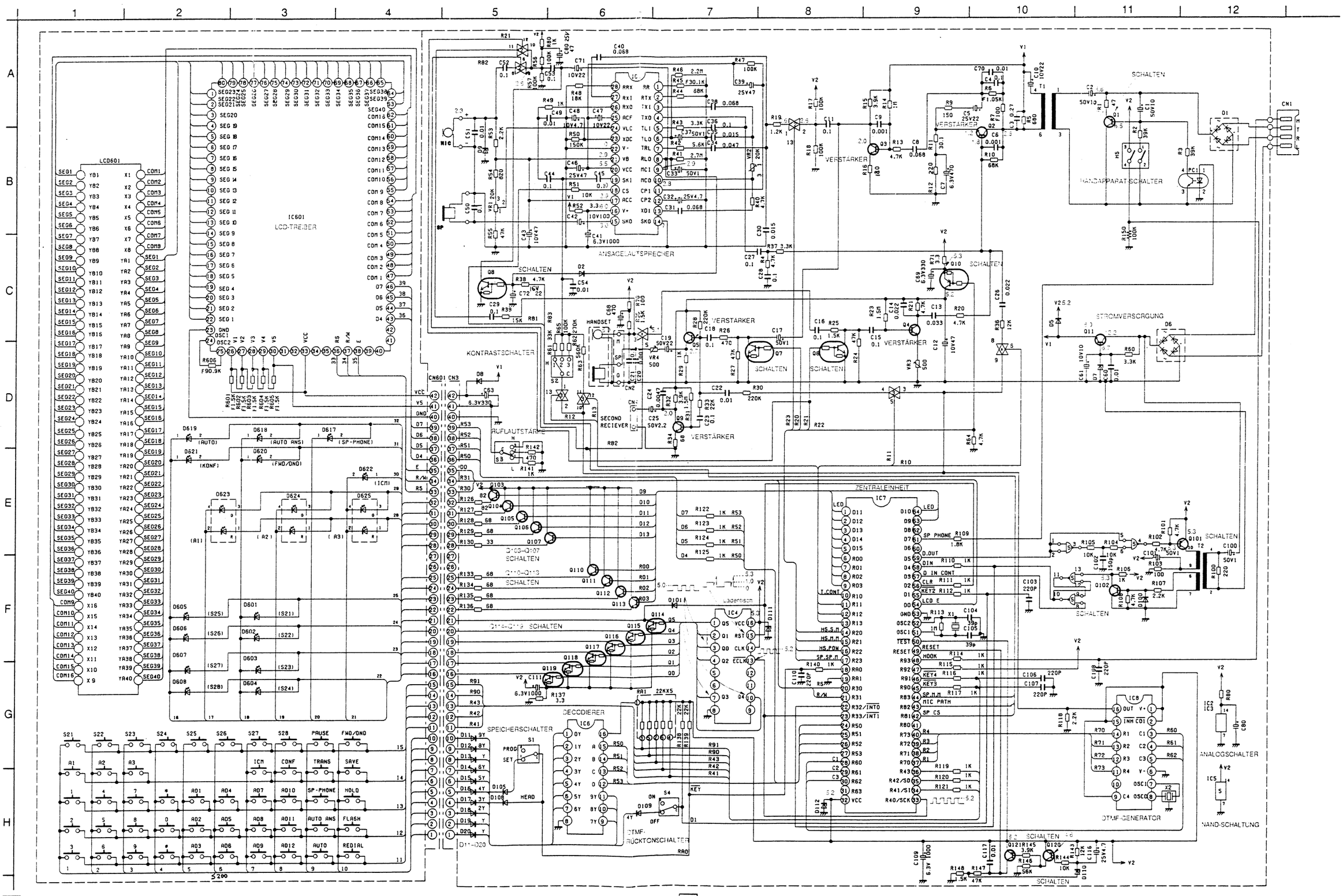


1) Amts- und Internanruf
Für ein Rufsignal von einer Amtsleitung oder einer Sprechstelle wird nur Pin 6 von IC3 (Analogschalter) auf HIGH geschaltet. Dadurch wird das Einzeltonsignal von IC8 ausgegeben (siehe unten), die Lautstärke wird über Schalter S3 eingestellt.



IC8 Pin 16→IC3 Pin 2 bis 1→S3→C45→IC1 Pin 19→IC1 Pin 15→C42→Lautsprecher

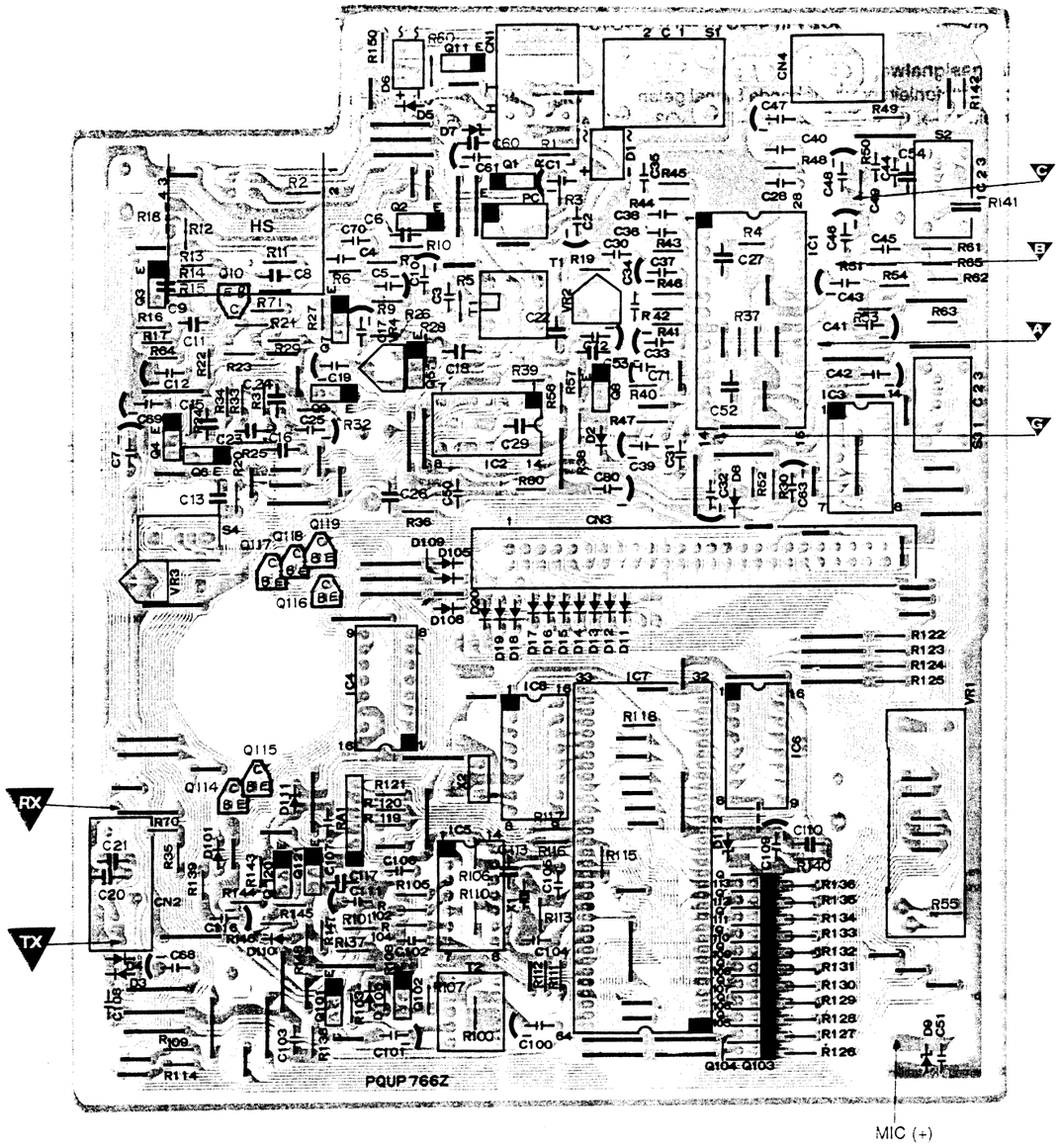
SCHALTPLAN



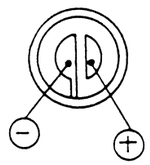
15 16

PLATINE

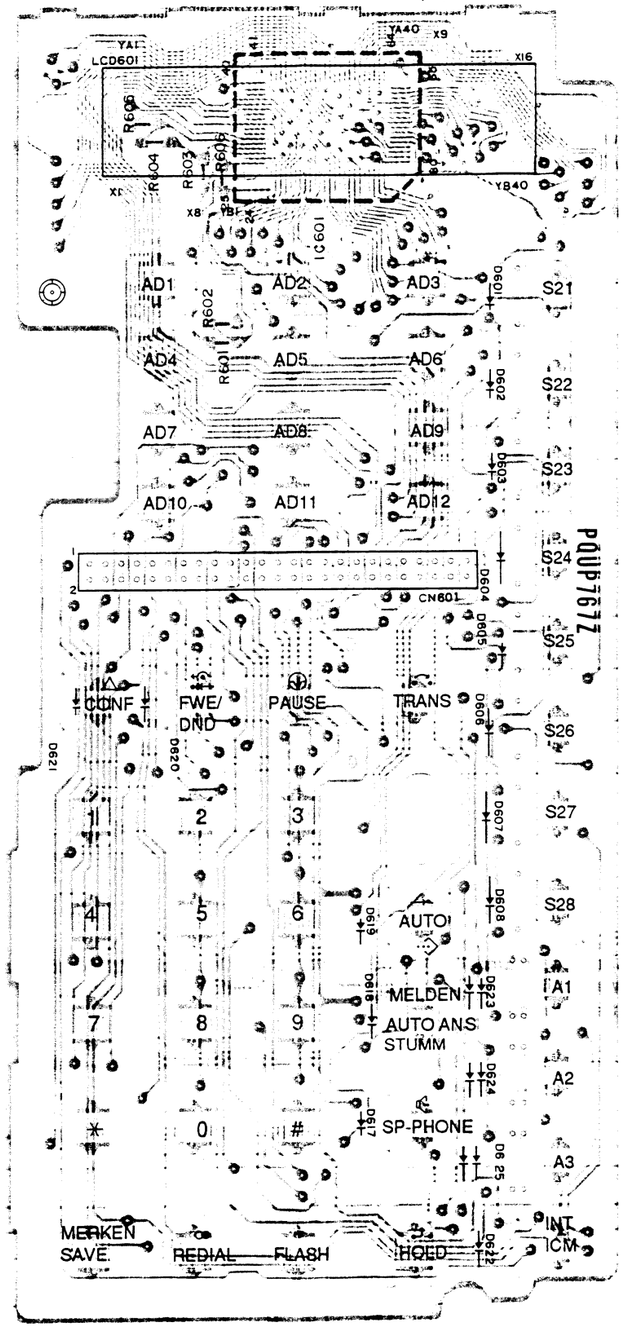
Bauteilseite



MIKROFON



Bauteilseite



■ ZUM SCHALTBILD

Hinweise:

1. HS: Gabelschalter
2. S1: Speicher-Schalter in Position "PROGRAM" (Programm).
3. S2: Schalter für Kontrast in Position "H" (Hoch).
4. S3: Schalter für Ruflautstärke in Position "LOW" (Low).
5. S4: DTMF-Rücktonschalter
6. Gleichspannungsmessungen mit elektronischem Voltmeter gegen Masse.
   (Handapparat abgehoben)
   (IC1 ...Freisprecheinrichtung EIN)
7. Dieses Schaltbild kann durch die Entwicklung einer neuen Technik geändert werden.

Hinweise:

1. Die ▒▒ (dunkel) dargestellten Leiterbahnen liegen auf der Rückseite der Platine.
2. Die ▭ (hell) dargestellten Leiterbahnen liegen auf der Frontseite der Platine.
3. Die Leiterplatte kann durch die Entwicklung einer neuen Technik geändert werden.

2) Besetztsignal
Wenn Pin 12 von IC3 (Analogschalter) in den Status HIGH geschaltet wird, geschieht dies ebenso wie für einen Amts- oder Internanruf.
Vom IC8 werden in Intervallen von 60 ms abwechselnd Signale mit 852 Hz und 697 Hz ausgegeben.
Der Signalweg ist unten dargestellt.

IC8 Pin 16→IC3 Pin 10 bis 11→R63→C45→IC1 Pin 19→IC1 Pin 15→C42→Lautsprecher

3) MFV-Signal
Wenn die Pins 5, 12 und 13 von IC3 in den Status HIGH geschaltet werden, wird entsprechend der unten abgebildeten Logiktabelle ein MFV-Ton erzeugt.

Der Signalweg ist unten dargestellt.

IC8 Pin 16 (zum Monitor)
- (Zur Telefonleitung) → IC3 Pin 9 bis 8→R36→C26→Q2→T1→Telefonleitung
- → IC3 Pin 3 bis 4→R30→C22→Q5(Q9)→C19(C25)→Telefon (Zweithörer)
- (IC3 Pin 10 bis 11→R63→C45→IC1 Pin 19→IC1 Pin 15→C42→Lautsprecher)

MFV Frequenztabelle

		Obere Gruppe		
		1209 Hz	1336 Hz	1477 Hz
Untere Gruppe	697 Hz	1	2	3
	770 Hz	4	5	6
	852 Hz	7	8	9
	941 Hz	*	0	#

Wahrheitstabelle

	C1	C2	C3	R1	R2	R3	R4
1	L	H	H	L	H	H	H
2	H	L	H	L	H	H	H
3	H	H	L	L	H	H	H
4	L	H	H	H	L	H	H
5	H	L	H	H	L	H	H
6	H	H	L	H	L	H	H
7	L	H	H	H	H	L	H
8	H	L	H	H	H	L	H
9	H	H	L	H	H	L	H
*	L	H	H	H	H	H	L
0	H	L	H	H	H	H	L
#	H	H	L	H	H	H	L

4) Tasteneingabe-Signal
Als Tasteneingabe-Ton wird ein Einzelton von 852 Hz verwendet. Wenn die Pins 5 und 12 von IC3 in den Status HIGH geschaltet werden, wird der Ton von IC8 erzeugt und an das Telefon weitergegeben.
Der Signalweg ist unten dargestellt.

IC8 Pin 16
- → IC3 Pin 3 bis 4→R30→C22→Q5(Q9)→C19(C25)→Telefon (Zweithörer)
- → IC3 Pin 10 bis 11→R63→C45→IC1 Pin 19→IC1 Pin 15→C42→Lautsprecher

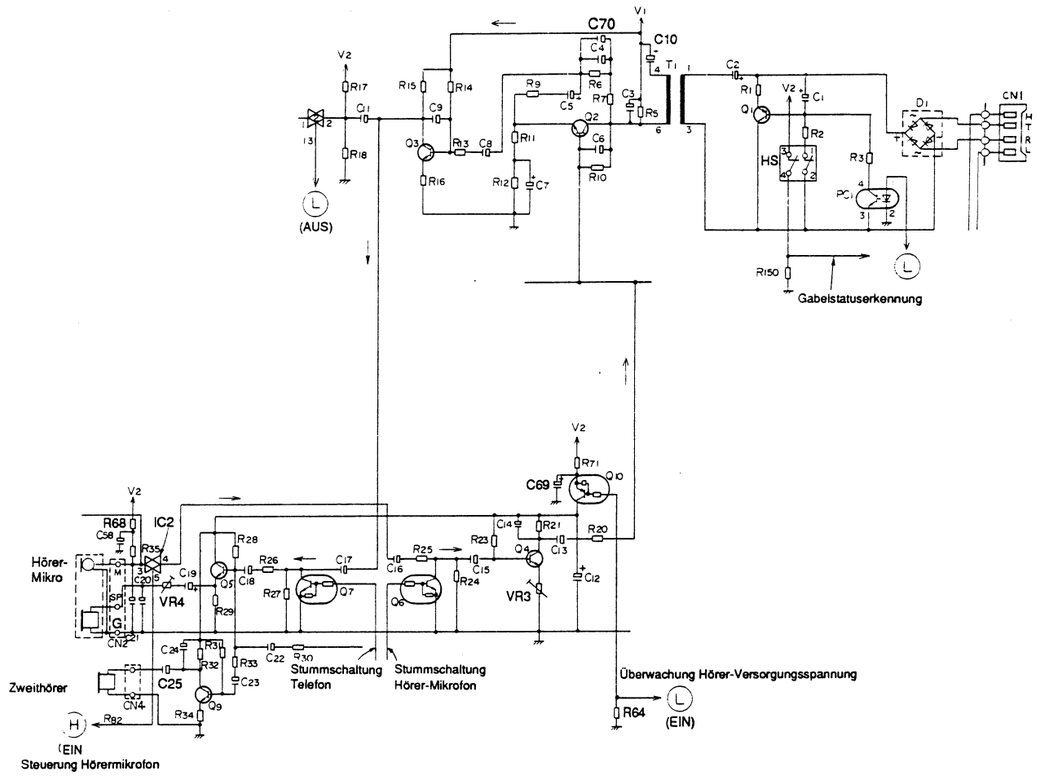
Zustand	IC7 pin 7	IC4 SWA	IC7 pin 11	IC4 SWB	IC7 pin 13	IC4 SWC	IC7 pin 12	IC4 SWD
Ruf	L	OFF	L	OFF	L	OFF	H	ON
Aufmerksamkeitston bei abgenommenem Handapparat	L	OFF	L	OFF	H	ON	L	OFF
Frequenzwahl (Handapparat)	H	ON	H	ON	L	OFF	L	OFF
Frequenzwahl (Freisprechen)	H	ON	L	OFF	H	ON	L	OFF

■ HÖRERSCHALTUNG

1) Sendesignalweg
Das Eingangssignal vom Hörer-Mikrofon gelangt auf folgenden Weg zur Telefonleitung:
Hörer-Mikro→IC2 Pin 3→IC2 Pin 4→C16 →R25→C15→Q4→C13→Q2→T1→D1→Telefonleitung

2) Empfangssignalweg
Die von der Telefonleitung eingehende Signal gelangt auf folgendem Weg zum Telefon und Zweithörer:
Telefonleitung→D1→C2→T1→C10→R14→Q3→C17→R26→C18→Q5 (Q9)→C19 (C24)→Telefon (Zweithörer)

Schaltplan



■ SCHALTUNG FREISPRECHEINRICHTUNG

Zweck:
Dieser Schaltkreis steuert im Freisprechverkehr die automatische Umschaltung der gesendeten und empfangenen Sprachsignale von und zur Telefonleitung.

Schaltungsfunktion:
Die Freisprecheinrichtung bietet immer nur einen Gesprächsweg in einer Richtung.
Anders ausgedrückt, kann zu einem gegebenen Zeitpunkt entweder ein ausgehendes Signal übertragen oder ein eingehendes Signal empfangen werden, jedoch nicht beides gleichzeitig. Daher ist eine Wechsel- Schaltung erforderlich, die den Fluß der ausgehenden und eingehenden Signale steuert. Der Wechsel-Schaltkreis wird vom IC1 bereitgestellt und besteht aus einem Sprachdetektor, Tx-Dämpfungsglied, Rx- Dämpfungsglied, einem Komparator und einer Dämpfungssteuerung. Der Schaltkreis analysiert, ob das Tx-(übertragene) oder das Rx- (empfangene) Signal lauter ist, und reagiert, indem er dem lauteren Signal Vorrang einräumt.
Der Sprachdetektor liefert eine dem Tx-Signal entsprechende Gleichspannung an die Dämpfungssteuerung.
Der Komparator empfängt ein Tx- und ein Rx-Signal und liefert eine Gleichspannung an die Dämpfungssteuerung, die dem Rx-Signal entspricht. Die Dämpfungssteuerung liefert ein Steuersignal an das Tx- und das Rx-Dämpfungsglied, um die entsprechenden Signale ein- oder auszuschalten.
Die Dämpfungssteuerung erkennt auch die Stellung des Lautstärkereglers, um eine automatische Einstellung auf wechselnde Umgebungsbedingungen zu ermöglichen.

1) Pfad für Steuersignal
Die Steuersignale für Senden und Empfangen gelangen folgendermaßen zu IC1:

(Pfad für Steuersignal SENDEN)
MIKRO→IC1 Pin 9→IC1 Pin 10→IC1 Pin 3→IC1 Pin 4→IC1 Pin 5

(Pfad für Steuersignal EMPFANGEN)
Telefonleitung→IC2 Pin 7→IC2 Pin 9→IC1 Pin 7

2) Umschaltung SENDEN/EMPFANGEN
Das Ergebnis des Vergleichs zwischen Tx- und Rx-Signalstärke liegt als Gleichspannungspegel an IC1, Pin 23:
Tx-Pegel liegt hoch ... Pin 23 = Pin 20 - 6 mV
Rx-Pegel liegt hoch ... Pin 23 = Pin 20 - 150 mV
Der Komparatorausgang ist IC1-intern mit der Dämpfungssteuerung verbunden.

3) Sprachdetektor
Die Ausgabe des Mikrofon-Verstärkers (Pin 10 von IC1) wird als Steuersignal für den Sprachdetektor an Pin 13 von IC1 geleitet.

4) Dämpfungssteuerung
Die Dämpfungssteuerung stellt die Einstellung des Lautstärkereglers über Pin 24 von IC1 fest und nimmt automatisch eine Anpassung an wechselnde Umgebungsbedingungen vor.

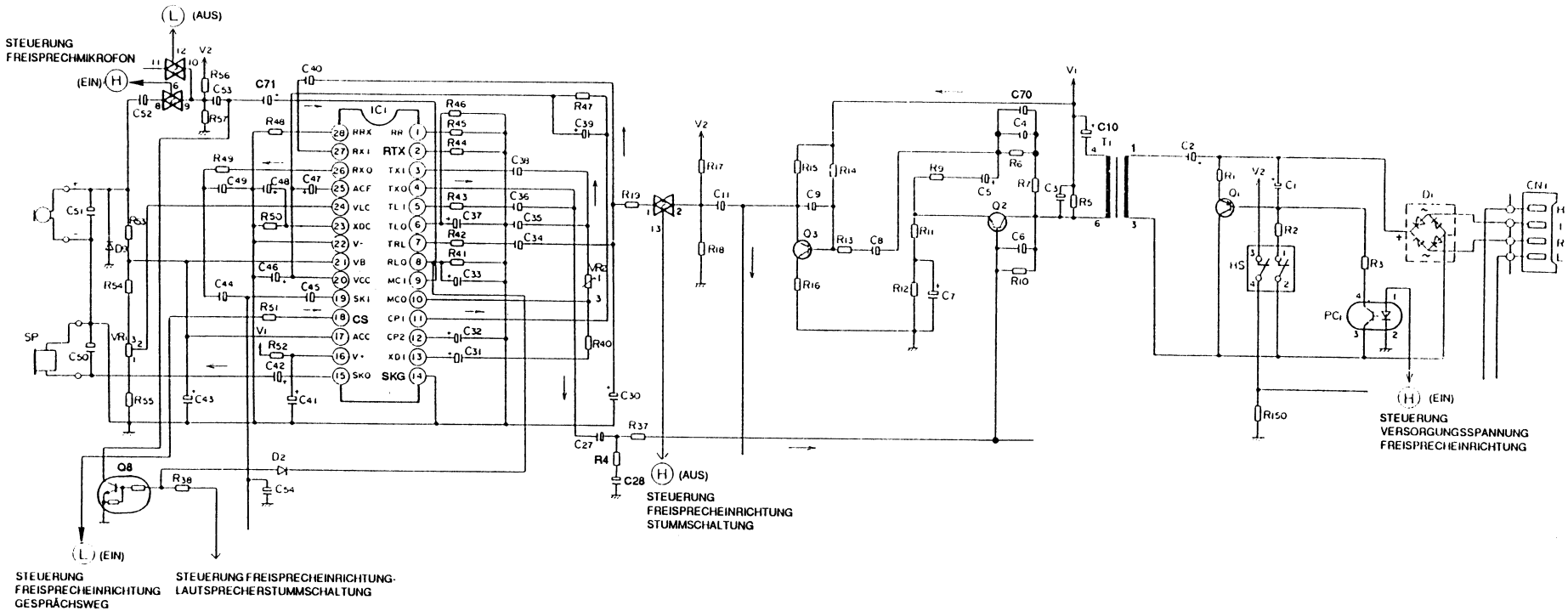
5) Pfad für Sendesignal
Das Mikrofonsignal gelangt über folgenden Pfad zur Schaltung:
Beachten Sie, daß in diesem Fall der logische Zustand der Pins 10, 11 und 12 LOW ist.
Mikrofon→C52→IC1 Pin 9→IC1 Pin 10→IC1 Pin 3→IC1 Pin 4→C27→R37→Q2→T1→D1→Telefonleitung

6) Pfad für Empfangssignal
Die von der Telefonleitung empfangenen Signale gelangen über folgenden Weg zum Lautsprecher:
Beachten Sie, daß in diesem Fall der logische Zustand der Pins 10, 11 und 12 LOW ist.

Telefonleitung→D1→T1→Q3→R19→IC1 Pin 27→IC1 Pin 26→IC1 Pin 19→IC1 Pin 15→Lautsprecher

Schaltplan

STEUERUNG HANDAPPARATMONITOR-GESPRÄCHSWEG

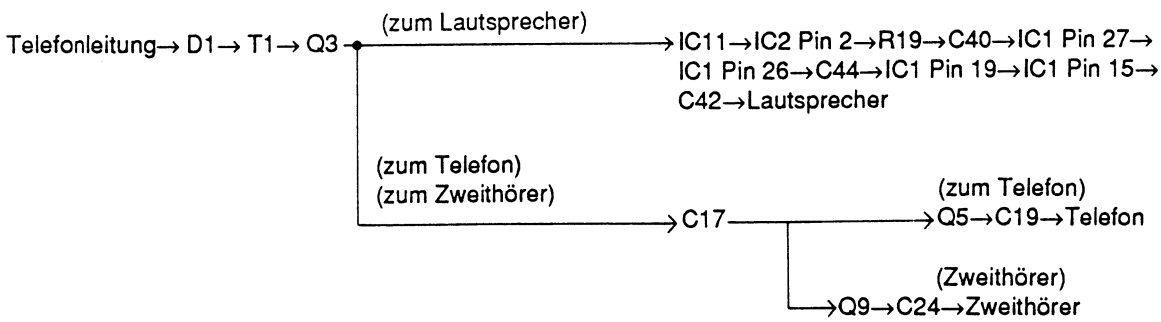


■ LAUTHÖREINRICHTUNG

1) Pfad für Sendesignal
Das Eingangssignal vom Hörer-Mikrofon wird über das Freisprech-IC (IC1) an die Telefonleitung weitergeleitet.

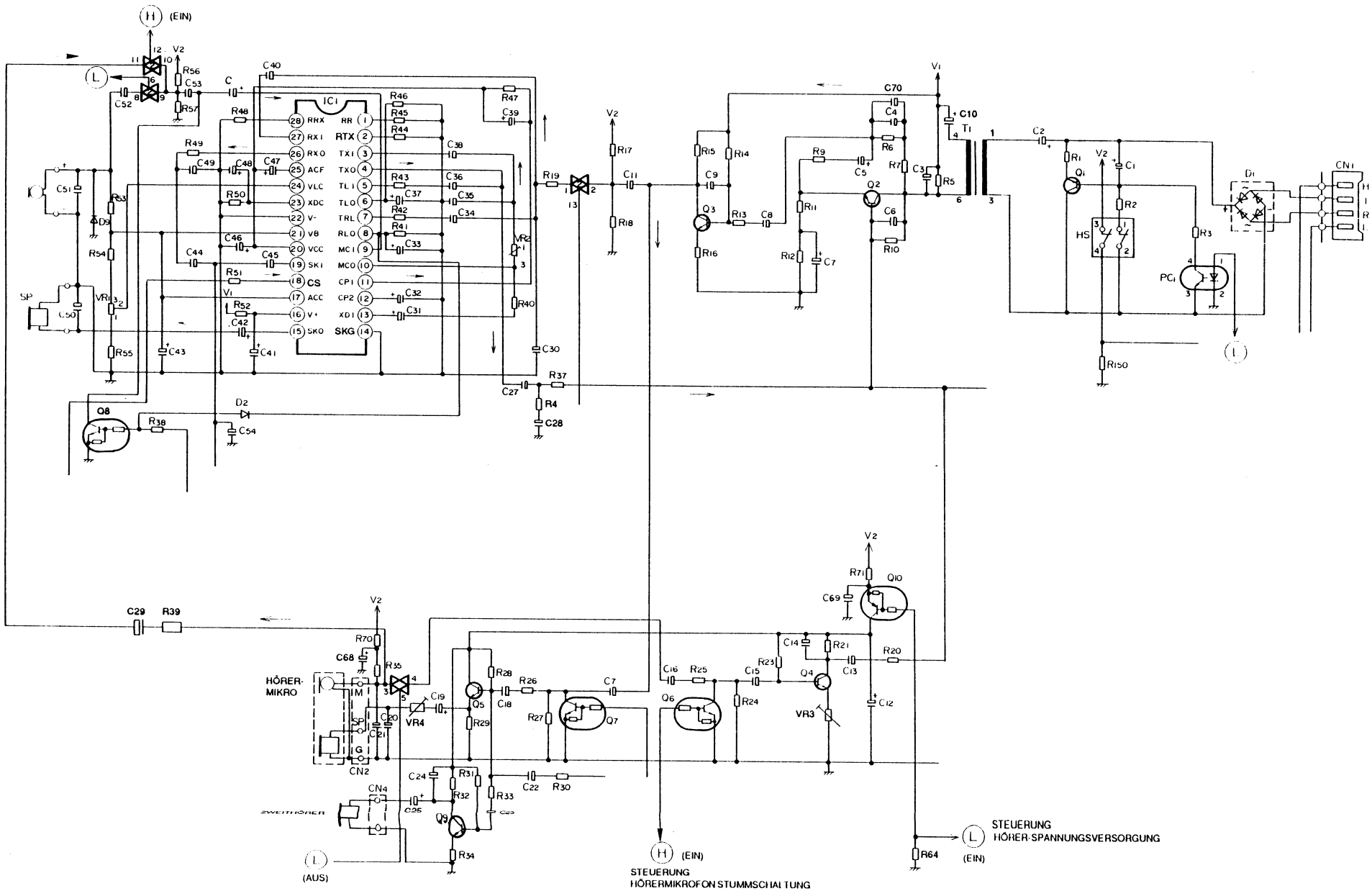
Hörer-Mikrofon→IC2 Pin 11→IC2 Pin 10→IC1 Pin 9→IC1 Pin 10→C38→IC1 Pin 3→IC1 Pin4→C27→Q2→T1→D1→Telefonleitung

2) Pfad für Empfangssignal
Das Empfangssignal von der Telefonleitung wird an das Telefon, den Zweithörer und den Lautsprecher weitergeleitet.



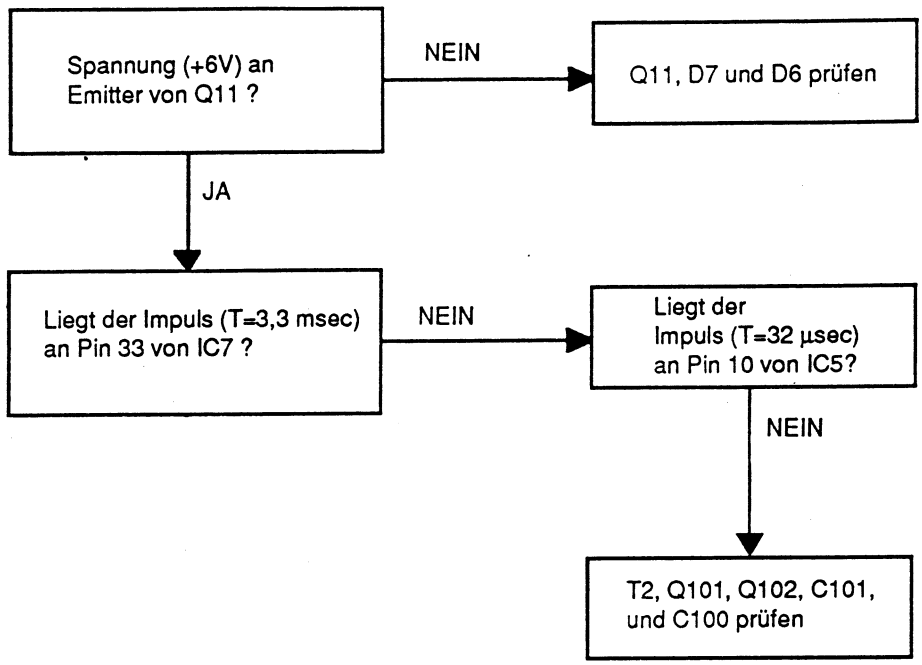
Schaltplan

STEUERUNG HANDAPPARATMONITOR-GESPRÄCHSWEG



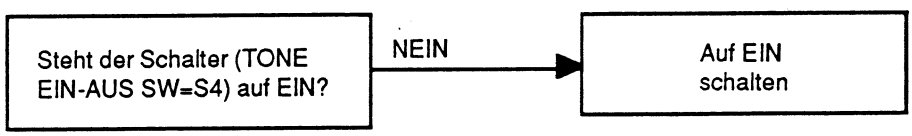
HINWEISE ZUR FEHLERSUCHE

1) KEINE FUNKTION


Spannung (+6V) an Emitter von Q11 ?
NEIN
Q11, D7 und D6 prüfen
JA
Liegt der Impuls (T=3,3 msec) an Pin 33 von IC7 ?
NEIN
Liegt der Impuls (T=32 µsec) an Pin 10 von IC5?
NEIN
T2, Q101, Q102, C101, und C100 prüfen

2) PROBLEM MIT TASTENEINGABE-TON

(Im Freisprechbetrieb ist der Tasteneingabe-Ton über den Lautsprecher nicht hörbar.)



EINSTELLUNGEN

Prüfeinrichtungen:

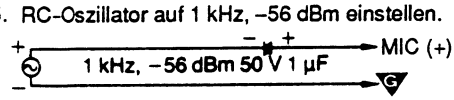
Schleifensimulator, Gleichspannungs-Netzteil
RC-Oszillator
VTVM

Vorbereitung:

1. Stellen Sie den Apparat folgendermaßen ein:
   A. LAUTSTÄRKE - "MAX"
2. Stellen Sie den veränderlichen Widerstand des Schleifen-Simulators auf Maximum (Linksanschlag).
3. Schließen Sie das Gleichstrom-Netzteil an. (Spannungseinstellung: 12 V)
4. Schließen Sie den Apparat an den Schleifensimulator an.
5. Nehmen Sie alle Einstellungen in einem ruhigen Raum vor.

Sendepegel:

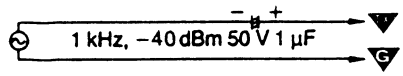
1. Verbinden Sie die Prüfpunkte ▼A - ▼G und ▼B - ▼C.
2. Trennen Sie das Mikrofon im Apparat ab.
3. Wahlschalter am Schleifen-Simulator auf "TX" stellen.
4. RC-Oszillator an Prüfpunkt ▼G (–) und MIC (+) anschließen, Elektrolytkondensator (50 V, 1 µF) wie unten abgebildet anschließen.
5. RC-Oszillator auf 1 kHz, –56 dBm einstellen.



6. VTVM mit dem Schleifensimulator verbinden.
7. VR2 auf eine VTVM-Anzeige von –17 dBm±0,5 dBm einstellen.
8. Prüfpunkte ▼A - ▼G, ▼B - ▼C trennen und Mikrofon wieder anschließen.

Einstellung des Sendepegels (Handapparat)

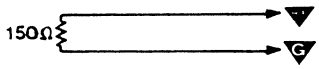
1. Schleifensimulator "TX".
2. Oszillator mit Testpunkt ▼T – ▼G verbinden, wie unten gezeigt.
3. Empfangsoszillator auf 1 kHz, –40 dBm einstellen.



4. VTVM mit dem Schleifensimulator verbinden.
5. VR3 auf eine VTVM-Anzeige von –6,5 dBm ±0,5 dBm einstellen.

Einstellung des Empfangspegels (Handapparat)

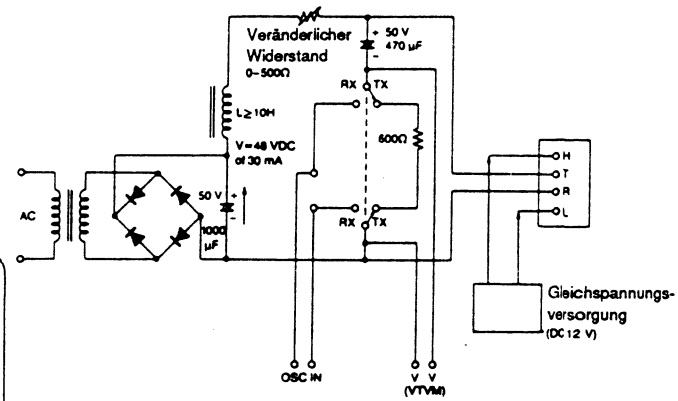
1. Schleifensimulator "RX".
2. Stummschalter drücken.
3. Über den Oszillator 1 kHz, –30 dBm anlegen.
4. 150-ohm-Widerstand an Testpunkt ▼T – ▼G und VTVM an beide Enden anschließen.



5. VR4 auf eine VTVM-Anzeige von –25 dBm ±0,5 dBm einstellen.

Die Lage der Prüfpunkte (▼) ist auf der Platine angegeben.

Schaltbild des Schleifensimulators



Falls ein Netzteil mit 48 V Gleichspannung nicht zur Verfügung steht, kann ersatzweise auch ein Netzteil mit 20 V Gleichspannung verwendet werden. Der veränderliche Widerstand (0 bis 500Ω) muß dann auf 0 Ohm eingestellt werden.

Abb. 10

- Nach Austausch von IC1 müssen folgende Einstellungen vorgenommen werden:

- Nach Austausch von Q4, Q5 müssen folgende Einstellungen vorgenommen werden:

IC-BLOCKSCHALTBILD

IC6 PQVITC7H42P

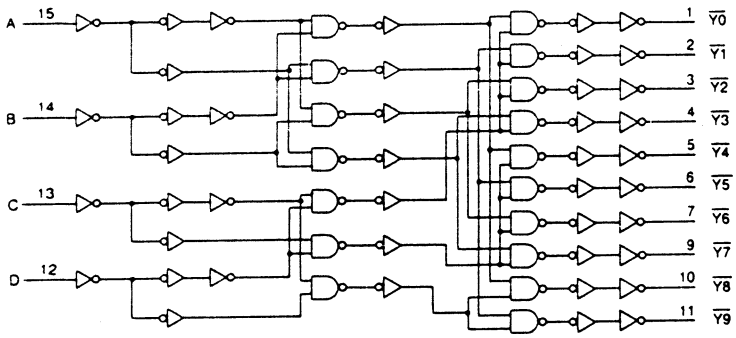


Abb. 11

IC4 PQVITC4017BP

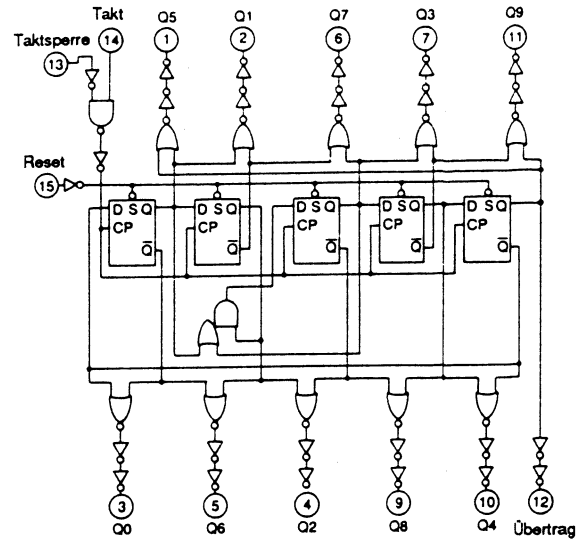


Abb. 12

ZUBEHÖRTEILE UND VERPACKUNGSMATERIAL

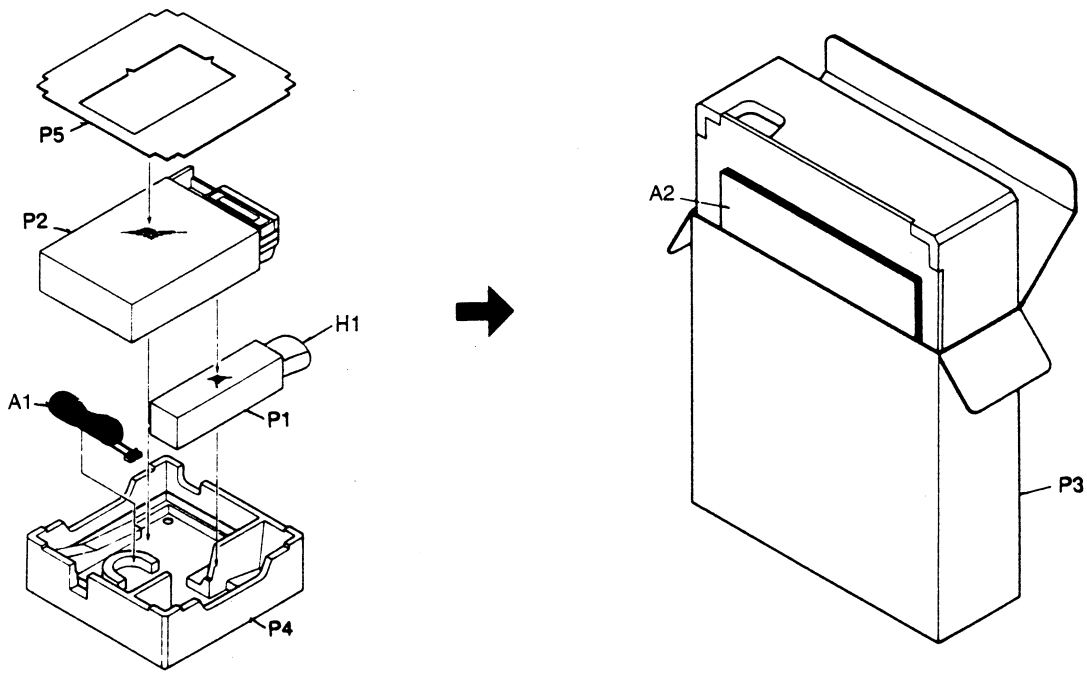
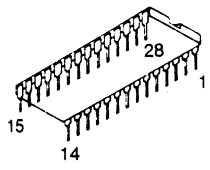
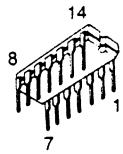
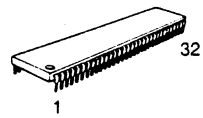
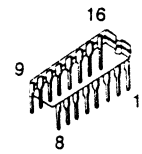
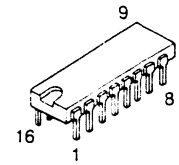
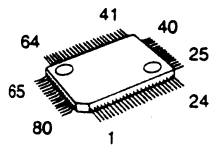
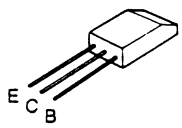
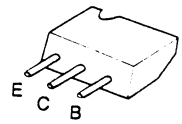
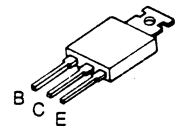
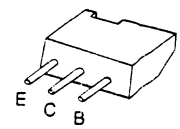
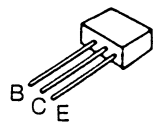
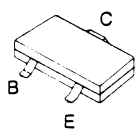
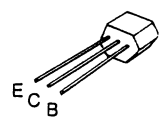
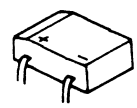
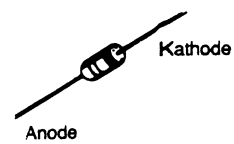
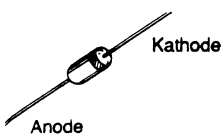
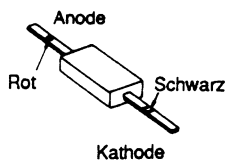
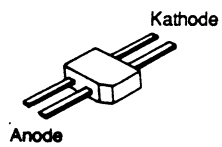
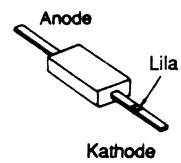


Abb. 13

ANSCHLUSSBELEGUNG VON IC's, TRANSISTOREN UND DIODEN

 PQVISC77655P	 PQVITC4011BP PQVITC4066BP	 PQVI4046SA48	 PQVITC4017BP PQVITC7H42P	 PQVITP5089N
 PQVIHD44780	 2SA1626	 2SB641	 2SC2590	 2SA937
 PQVTBB1J3P	 PQVTDTC143K	 2SC1740S	 PQVD1YB40F1	 MA4036, MA2D51 MA4068
 1SS131	 LN01201CU3LF	 LN02102C13LF	 LN01301C3LF1	

HÖRER-EXPLOSIONSZEICHNUNG

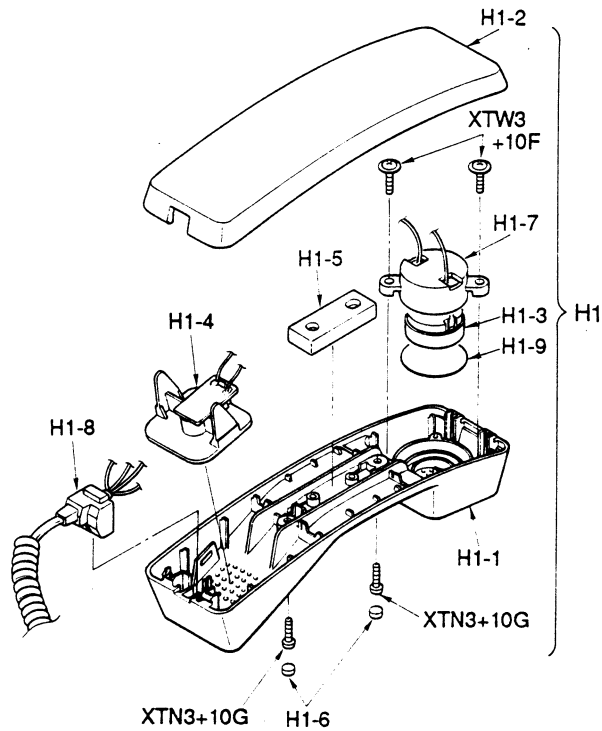


Abb. 14

APPARAT-EXPLOSIONSZEICHNUNG

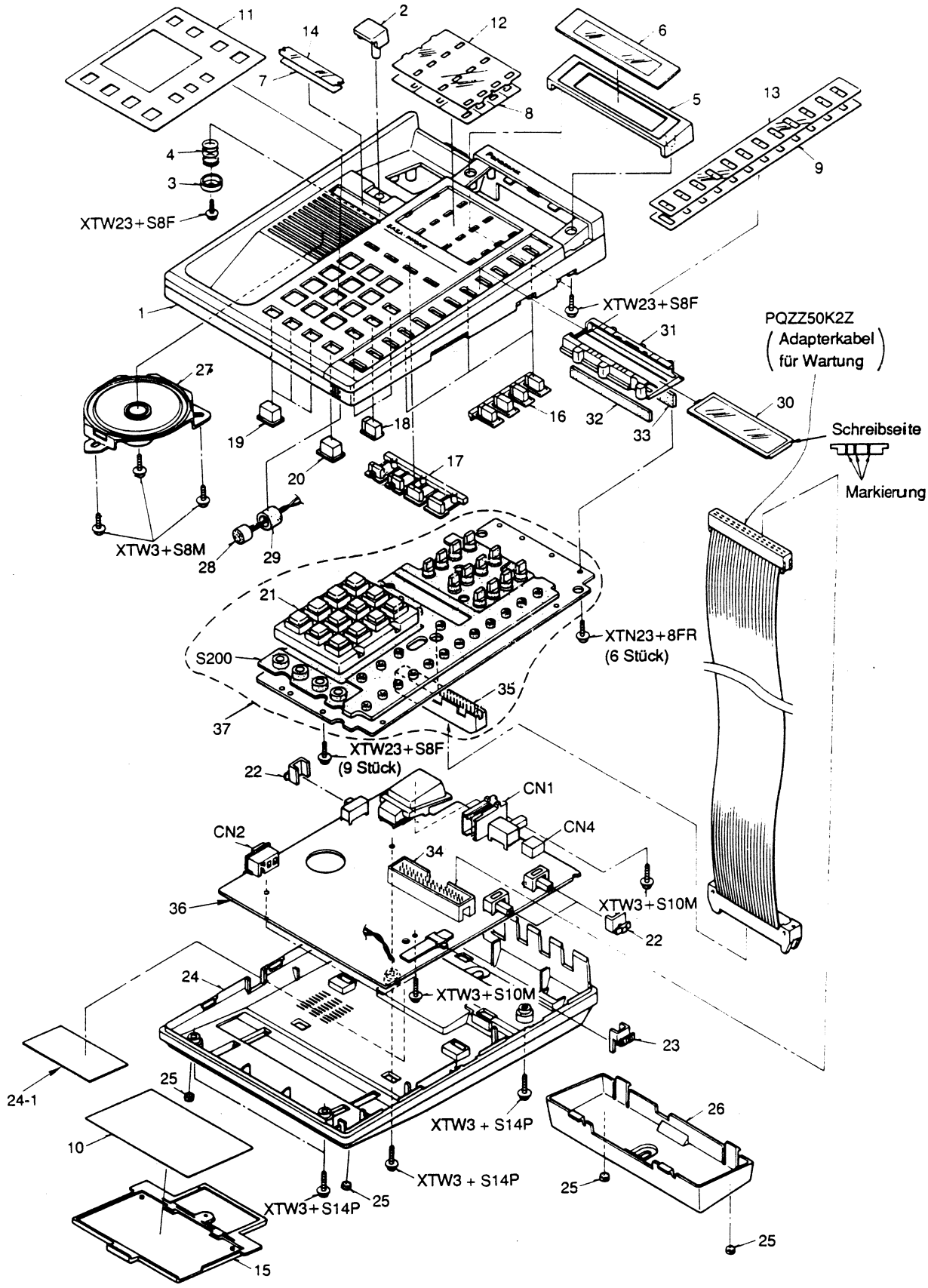


Abb. 15

REPLACEMENT PARTS LIST

Model KX-T30830S

Notes:

1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. The S mark indicates service standard parts and may differ from production parts.
3. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P=μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ER0:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	3:3W

Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQCBCX:Ceramic
ECQS:Styrol	ECQM,ECQV,ECQG,ECQE:Polyster
PQCBX,ECUV:Chip	ECEA,ECSZ,ECEB:Electrolytic
ECMS:Mica	ECQP:Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		INTEGRATED CIRCUITS, TRANSISTORS & DIODES		
IC1	PQVISC77655P	IC		1
IC2,3	PQVITC4066BP	IC		2
IC4	PQVITC4017BP	IC		1
IC5	PQVITC4011BP	IC		1
IC6	PQVITC7H42P	IC		1
IC7	PQVI4046SA48	IC		1
IC8	PQVITP5089N	IC		1
IC601	PQVIHD44780	IC		1
Q1	2SA1626	Transistor (Si)		1
Q2-5,9, 102-107, 110-113,	2SC1740S	Transistor (Si)		15
Q6-8	PQVTBB1J3P	Transistor (Si)		3
Q11	2SC2590	Transistor (Si)		1
Q101	2SA937	Transistor (Si)	S	1
Q114-119	PQVTDTC143K	Transistor (Si)		6
Q120,121	2SB641	Transistor (Si)	S	2
D1,6	PQVDS1YB40F1	Diode (Si)		2
D2-5,8, 11-20, 100, 101, 105, 108, 109	1SS131	Diode (Si)		20
D7	MA4068	Diode (Si)		1
D9,111, ,112	MA2051	Diode (Si)		3
D110	MA4036	Diode (Si)		1
D601-608, 617-621	LN01201CU3LF	LED	S	13
D622	LN01301C3LF1	LED	S	1
D623, 624, 625	LN02102C13LF	LED	S	3
		TRANSFORMERS		
T1	ETA14Y166AY	Call Transformer		1
T2	ETE13K24AY	Interface Transformer		1
		VARIABLE RESISTORS		
VR1	PQVAL202B24A	Volume Control, 20K(B)		1
VR2	PQNB3A00B24M	Semi-Fixed, 20K(B)	S	1
VR3,4	PQNB3A00B52M	Semi-Fixed, 500(B)	S	1
		SWITCHES		
HS	PQSH1B08Z	Switch, Hook		1
S1	PQSS2A12V	Switch, Memory		1
S2,3	PQSS3A14Z	Switch, Contrast, Ringer Volume		1
S4	PQSS2A16Y	Switch, DTMF back Tone		1
S200	PQSE50Y	Switch, Dial (Rubber Switch)		1
		JACKS		
CN1	PQJJ1TB15Z	Jack, Telephone		1
CN2	PQJJ1TB10Z	Jack, Handset		1
CN4	PQJJ1TB18Z	Jack, Second Receiver		1
		OTHERS		
RA1	PQRS8B5223J	Component Combination, Resistor Array	S	1
X1	PQVCX2500N9	Crystal Oscillator		1
X2	PQVBT3.58G4	Ceramic Filter		1
PC1	PQVITLP627	Photo Coupler		1

Ref. No.	Part No.	Part Name & Description	Pcs
		CABINET AND ELECTRICAL PARTS	
1	PQKM83J8	Upper Cabinet	1
2	PQKE20Z9	Hanger, Handset	1
3	RMS35Z	Bracket, Handset Hanger M'tg	1
4	PQUS65Z	Spring	1
5	PQGK50Z	Ornament	1
6	PQGP48Z	Transparent Plate, LCD	1
7	PQHP532X	Card, TEL. No.	1
8	PQHP542X	Card, Memory Station	1
9	PQHP5069Z	Card, COL	1
10	PQHP5067Z	Card, Speed Dial	1
11	PQHP5068Z	Card, Overlay	1
12	PQHR5005Z	Transparent Plate, Memory Station Card	1
13	PQHR5006Z	Transparent Plate, COL Card	1
14	PQHR576Z	Transparent Plate, TEL. No.	1
15	PQHR9152Y	Cover, Speed Dial Card	1
16	PQBCX19Z	Button, Station	3
17	PQBCX20Z	Button, CONF/FWD.DND/PAUSE /TRANSFER	1
18	PQBC114Z	Button, AUTO/AUTO ANS/SP-PHONE	3
19	PQBC115Z	Button, SAVE/REDIAL/FLASH	3
20	PQBC115Z1	Button, HOLD	1
21	PQBCX25Y	Button, Dial (Assembly)	1
22	PQBD62Z	Knob, Ringer, Contrast, DTMF Back Tone	3
23	PQBD63Z	Knob, Volume	1
24	PQYF30830SXG	Lower Cabinet Ass'y	1
24-1	PQGT570Z	Name Plate	1
25	RHG1028Z	Rubber Leg	4
26	PQKL10Z	Stand	1
27	PQAS65P06V	Speaker	1
28	RJM142Z	Microphone S	1
29	PQHG503Z	Microphone Cover	1
30	PQADLR110C	LCD (LCD601)	1
31	PQHR9156Y	Holder, LCD	1
32	PQSE51Z	Connector, LCD	1
33	PQSE52Z	Connector, LCD	1
34	PQJP50D30Y	Connector, 50P (CN3)	1
35	PQJS50X33Y	Connector, 50P (CN601)	1
36	PQWP130830XG	Main Board Ass'y (NLA)	1
37	PQWP230830XG	Dial Board Ass'y (NLA)	1
		HANDSET PARTS	
H1	PQJX3PEJ03Y	Handset Assembly	1
H1-1	PQKM175Y81	Lower Cabinet	1
H1-2	PQKF160Z81	Upper Cabinet	1
H1-3	PQAX3P06Z	Speaker	1
H1-4	PQWMJ3PEJ03Y	Microphone Assembly	1
H1-5	PQHM32Y	Weight	1
H1-6	PQHG695W	Rubber Cap	2
H1-7	PQHR486Z	Speaker Holder	1
H1-8	PQJA187Y	Handset Cord	1
H1-9	PQHS921Z	Sheet	1
		ACCESSORIES	
A1	PQJA188Z	Telephone Cord	1
A2	PQQX6169Z	Instruction Book (User Guide)	1
		PACKING MATERIALS	
P1	PQPH75Z	Protection Cover (for Handset)	1
P2	XZB26X40A01	Protection Cover (for Unit)	1
P3	PQPK1077Z	Gift Box	1
P4	PQPN1126Z	Pad, Lower	1
P5	PQPN593Z	Pad, Upper	1

Ref No.	Part No.	Value	Ref No.	Part No.	Value
		RESISTORS			
R1	PQ4R18XJ470	47	R100	PQ4R18XJ221	220
R2	PQ4R18XJ393	39K	R101	PQ4R18XJ472	4.7K
R3	PQ4R18XJ393	39K	R102	ERDS2TJ472	4.7K
R4	PQ4R18XJ472	4.7K	R103	ERDS2TJ101	100
R5	PQ4R18XJ681	680	R104	ERDS2TJ103	10K
R6	PQ4R18XF1051	1.05K	R105	ERDS2TJ103	10K
R7	PQ4R18XF1000	100	R106	PQ4R18XJ102	1K
R8	Not Used		R107	PQ4R18XJ222	2.2K
R9	PQ4R18XJ151	150	R108	ERDS2TJ472	4.7K
R10	PQ4R18XJ683	68K	R109	ERDS2TJ182	1.8K
R11	PQ4R18XF30R1	30.1	R110	PQ4R18XJ102	1K
R12	PQ4R18XJ221	220	R111	ERDS2TJ102	1K
R13	PQ4R18XJ472	4.7K	R112	ERDS2TJ102	1K
R14	PQ4R18XJ105	1M	R113	PQ4R18XJ105	1M
R15	PQ4R18XJ392	3.9K	R114	ERDS2TJ102	1K
R16	ERDS2TJ181	180	R115	PQ4R18XJ102	1K
R17	ERDS2TJ104	100K	R116	PQ4R18XJ102	1K
R18	PQ4R18XJ104	100K	R117	PQ4R18XJ102	1K
R19	ERDS2TJ122	1.2K	R118	PQ4R18XJ222	2.2K
R20	ERDS2TJ472	4.7K	R119	ERDS2TJ102	1K
R21	PQ4R18XJ472	4.7K	R120	ERDS2TJ102	1K
R22	Not Used		R121	ERDS2TJ102	1K
R23	ERDS2TJ155	1.5M	R122	ERDS2TJ102	1K
R24	ERDS2TJ473	47K	R123	ERDS2TJ102	1K
R25	ERDS2TJ152	1.5M	R124	ERDS2TJ102	1K
R26	PQ4R18XJ471	470	R125	ERDS2TJ102	1K
R27	ERDS2TJ473	47K	R126	ERDS2TJ820	82
R28	PQ4R18XJ224	220K	R127	ERDS2TJ820	82
R29	PQ4R18XJ102	1K	R128	ERDS2TJ680	68
R30	ERDS2TJ224	220K	R129	ERDS2TJ680	68
R31	ERDS2TJ155	1.5M	R130	ERDS2TJ330	33
R32	PQ4R18XJ392	3.9K	R131	Not Used	
R33	ERDS2TJ223	22K	R132	Not Used	
R34	ERDS2TJ680	68	R133	ERDS2TJ680	68
R35	ERDS2TJ152	1.5K	R134	ERDS2TJ680	68
R36	ERDS2TJ123	12K	R135	ERDS2TJ680	68
R37	PQ4R18XJ332	3.3K	R136	ERDS2TJ680	68
R38	ERDS2TJ472	4.7K	R137	PQ4R18XJ3R3	3.3
R39	PQ4R18XJ153	15K	R138	ERDS2TJ223	22K
R40	ERDS2TJ472	4.7K	R139	ERDS2TJ223	22K
R41	ERDS2TJ275	2.7M	R140	PQ4R18XJ102	1K
R42	ERDS2TJ562	5.6K	R141	PQ4R18XJ102	1K
R43	ERDS2TJ332	3.3K	R142	ERDS2TJ471	470
R44	ERDS2TJ683	68K	R143	ERDS2TJ123	12K
R45	ER016CKF3012	30.1K	R144	ERDS2TJ103	10K
R46	ERDS2TJ225	2.2M	R145	ERDS2TJ392	3.9K
R47	ERDS2TJ104	100K	R146	ERDS2TJ563	56K
R48	ERDS2TJ183	18K	R147	ERDS2TJ473	47K
R49	ERDS2TJ102	1K	R148	ERDS2TJ152	1.5K
R50	ERDS2TJ154	150K	R149	Not Used	
R51	ERDS2TJ103	10K	R150	ERDS2TJ104	100K
R52	ERDS2TJ3R3	3.3			
R53	PQ4R18XJ222	2.2K	R601	PQ4R18XF151	1.5K
R54	ERDS2TJ821	820	R602	PQ4R18XF151	1.5K
R55	PQ4R18XJ473	47K	R603	PQ4R18XF151	1.5K
R56	ERDS2TJ104	100K	R604	PQ4R18XF151	1.5K
R57	ERDS2TJ104	100K	R605	PQ4R18XF151	1.5K
R58	Not Used		R606	PQ4R18XF902	90.9K
R59	Not Used				
R60	PQ4R18XJ332	3.3K			
R61	ERDS2TJ333	33K			
R62	ERDS2TJ274	270K			
R63	ERDS2TJ564	560K			
R64	ERDS2TJ472	4.7K			
R65	ERDS2TJ104	100K			
R66	Not Used				
R67	Not Used				
R68	Not Used				
R69	Not Used				
R70	ERDS2TJ101	100			
R71	PQ4R18XJ3R3	3.3			
R80	ERDS2TJ102	1K			

Ref No.	Part No.	Value	Ref No.	Part No.	Value
CAPACITORS					
C1	ECEA1HU100	10 S	C100	ECEA1HU010	1
C2	ECEA1HU100	10	C101	ECEA50ZI	1
C3	ECQV1H274JZ	0.27	C102	ECCD1H151JC	150P
C4	ECQV1H104JZ	0.1	C103	ECKD1H221KB	220P
C5	ECEA1CKS220	22 S	C104	ECCD1H390KC	39P
C6	ECUV1H102KB	0.001	C105	ECCD1H390KC	39P
C7	ECEA0JU471	470	C106	ECKD1H221KB	220P
C8	ECUV1H683MD	0.068	C107	ECKD1H221KB	220P
C9	ECUV1H102KB	0.001	C108	ECKD1H221KB	220P
C10	ECEA1CKS220	22	C109	ECEA0J102	1000
C11	ECUV1H104MD	0.1 S	C110	ECUV1H221JC	220P
C12	ECEA1CKS470	47	C111	ECEA0J102	1000
C13	ECUV1H333JC	0.033	C112	Not Used	
C14	Not Used		C113	Not Used	
C15	ECUV1H104MD	0.1 S	C114	Not Used	
C16	ECUV1H104MD	0.1 S	C115	Not Used	
C17	ECEA1HU010	1	C116	ECEA1HKS4R7	4.7
C18	ECUV1H104MD	0.1 S	C117	ECUV1H103KB	0.01
C19	ECEA1HU220	22			
C20	ECUV1H102KB	0.001			
C21	ECUV1H104MD	0.1 S			
C22	ECUV1H103KB	0.01			
C23	ECUV1H104MD	0.1 S			
C24	ECUV1H472KB	0.0047			
C25	ECEA1HU2R2	2.2			
C26	ECUV1H223MD	0.022			
C27	ECUV1H104MD	0.1 S			
C28	ECFD1C104KD	0.1			
C29	ECUV1H104MD	0.1			
C30	ECFD1E153KD	0.015			
C31	ECFD1C683KD	0.068			
C32	ECEA1HU4R7	4.7			
C33	ECEA1HKS010	1 S			
C34	ECFD1E473KD	0.047			
C35	ECFD1E153KD	0.015			
C36	ECFD1C104KD	0.1			
C37	ECEA1HU010	1			
C38	ECFD1C683KD	0.068			
C39	ECEA1EU470	47			
C40	ECFD1C683KD	0.068			
C41	ECEA0JU102	1000			
C42	ECEA1AU101	100			
C43	ECEA1CKS470	47 S			
C44	ECFD1C104KD	0.1			
C45	ECFD1C104KD	0.1			
C46	ECEA1EU470	47			
C47	ECEA1HU220	22			
C48	ECEA1HU4R7	4.7			
C49	ECKD1H103KB	0.01			
C50	ECFD1C104KD	0.1			
C51	ECKD1H103KB	0.01			
C52	ECUV1H104MD	0.1 S			
C53	ECUV1H104MD	0.1 S			
C54	ECUV1H103KB	0.01			
C55	Not Used				
C56	Not Used				
C57	Not Used				
C58	Not Used				
C59	Not Used				
C60	ECUV1H103KB	0.01			
C61	ECEA1HU100	10			
C62	Not Used				
C63	ECEA0JU331	330			
C64	Not Used				
C65	Not Used				
C66	Not Used				
C67	Not Used				
C68	ECEA0JU471	470			
C69	ECEA0JU331	330			
C70	ECQM1H103JV	0.01			
C71	ECEA1CKS220	22			
C72	ECEA1CKS220	22 S			
C80	ECEA1EU470	47			

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Printed in Japan